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R E P O R T

OF THE

OPERATIONS OF THE ENGINEER DEPARTMENT

OF THE

DISTRICT OF COLUMBIA

FOR

THE YEAR ENDING JUNE 30, 1900,

UNDER THE DIRECTION OF

CAPTAIN LANSING H. BEACH, CORPS OF ENGINEERS, U. S. A.,  
ENGINEER COMMISSIONER, DISTRICT OF COLUMBIA.



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1900.

NEW YORK  
330574  
ASTOR, LENOX  
TILDEN FOUNDATION

EXTRACT FROM THE REPORT OF THE COMMISSIONERS OF THE  
DISTRICT OF COLUMBIA FOR THE YEAR ENDED JUNE 30, 1900.

OFFICE OF THE COMMISSIONERS  
OF THE DISTRICT OF COLUMBIA,  
*Washington, December 1, 1900.*

The PRESIDENT:

The Commissioners of the District of Columbia herewith submit, for the information of Congress, as required by law, their annual report of the official doings of the government of said District for the fiscal year which ended June 30, 1900.

\* \* \* \* \*

OPERATIONS OF THE ENGINEER DEPARTMENT.

The engineer department of the District of Columbia was, during the fiscal year, under the charge of Capt. Lansing H. Beach, Corps of Engineers, U. S. A. He had as assistants Capt. William P. Craighill, Corps of Engineers, from July 1 to about September 15; Capt. D. D. Gaillard, Corps of Engineers, from September 11, and Capt. H. C. Newcomer, Corps of Engineers, from January 15 to the close of the fiscal year.

Captain Gaillard was placed in charge of the water, sewer, plumbing, and building divisions, and Captain Newcomer was given supervision over streets, county roads, bridges, surveyor's office, and parking commission.

STREET AND ALLEY PAVEMENTS.

Details of the work relating to street and alley pavements and county roads will be found in the report of the computing engineer, Mr. C. B. Hunt, for which see page 77.

Sheet asphalt and asphalt block were the only materials used for street pavements during the year. Vitrified block was used mainly in alleys, a few of which, however, were paved with asphalt block.

The prices paid for sheet asphalt were \$1.78 and \$1.80 per square yard; asphalt block, \$1.77 per square yard. For the coming year the prices will be \$1.79½ for sheet asphalt and \$1.77 for asphalt block.

It is again recommended that the granite-block pavements throughout the city be replaced as rapidly as possible with sheet asphalt or asphalt block. Business men generally on streets paved with this class of material have petitioned repeatedly for a smooth and less noisy pavement. The granite block is undoubtedly a detriment to a business street under the conditions prevailing in Washington, as such pavements are more or less avoided by traffic and trade diverted thereby. The Commissioners earnestly urge that the improvements desired be carried out as rapidly as possible.





for which purpose it is most admirable, as it binds well and on account of its hardness it grinds very slowly under traffic, and therefore causes but little dust. Copy of a test made by the department of road inquiry is here inserted, which shows that the stone from this particular quarry is one of the best macadamizing materials to be found in this country.

TEST No. 1.—*Abrasion test for wearing quality.*

LOSS BY RUBBING AND KNOCKING SPECIMENS TOGETHER IN AND OUT OF WATER.

[Tests made by M. O. Eldridge, November, 1897, for the information of the Engineer Commissioner of the District of Columbia.]

Locality or name of stone.	Weight before testing.	After testing.	Loss.
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>
Goose Creek (Virginia) trap.....	110.600	109.700	0.900
Hudson River trap.....	101.200	100.500	.700
Goose Creek (Virginia) trap.....	110.850	109.900	.950
Potomac River bluestone, Gilbert's.....	120.550	118.550	2.000
Dickerson (Md.) trap.....	55.250	54.450	.700
Rockyhill (N. J.) trap.....	55.550	54.825	.725
Goose Creek (Virginia) trap.....	108.100	107.300	.800
Boundbrook (N. J.) trap.....	109.050	108.200	.850
Goose Creek (Virginia) trap.....	84.735	82.975	1.400
Buck Lodge (Md.) trap.....	103.850	102.550	1.300
Do.....	175.150	173.150	2.000
Hudson River (New York) trap.....	141.950	139.875	2.075

N. B.—Small samples had to be used in this hand test. Larger samples can be used where the necessary apparatus is available; consequently the results are usually more accurate and satisfactory.

TEST No. 2.—*Specific gravity test.*

Location or name of stone.	Specific gravity.
Rockland Lake or Hudson River (New York) trap.....	2.90
Boundbrook (N. J.) trap.....	2.97
Potomac River graystone.....	2.80
Potomac River bluestone.....	2.81
Dickerson (Md.) trap (Baltimore and Ohio).....	2.915
Goose Creek, Virginia, near Belmont, on Southern R. R.....	3.02
Buck Lodge (Md.) trap.....	3.10

TEST No. 3.—*Absorption test.*

PERCENTAGE OF MOISTURE ABSORBED AFTER FORTY-TWO HOURS IMMERSION IN WATER.

Name.	Weight, dry.	Weight, wet.	Gain.	Per cent of gain.
Potomac River bluestone.....	122.750	122.950	0.200	0.163
Halpine (Md.) diorite.....	102.100	102.300	.200	.196
Goose Creek (Virginia) trap.....	112.750	112.850	.100	.089
Lambardsville (N. J.) trap.....	99.200	99.300	.100	.100
Potomac River graystone.....	89.675	89.750	.075	.084
Palisades (Hudson River) trap.....	139.475	139.500	.025	.019
Boundbrook (N. J.) trap.....	108.200	108.200	.....	.....
Dickerson (Md.) trap <sup>1</sup> .....	166.050	166.050	.....	.....

<sup>1</sup>These tests demonstrated that the Dickerson (Md.) stone possesses, first, remarkable resistance to physical force, hence great wearing quality; second, great density or specific gravity; third, little or no absorption, consequently great resistance to frost, and for these reasons was selected by the District Commissioners for road metal for the city of Washington and vicinity. A large crushing plant has been erected at Dickerson, Md., and first-class trap rock is now being prepared and used for road building in the District.



**EXTRACT FROM THE REPORT OF THE COMMISSIONERS OF THE  
DISTRICT OF COLUMBIA FOR THE YEAR ENDED JUNE 30, 1900.**

**OFFICE OF THE COMMISSIONERS  
OF THE DISTRICT OF COLUMBIA,  
*Washington, December 1, 1900.***

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During the year the last section of the highway plans was completed and placed on record. These plans now cover the entire District of Columbia and are of inestimable value as a guide in laying out streets and subdividing land. Now, an owner in any part of the District, however remote from the city, can, if he so desires, lay out his streets and subdivide his property with the knowledge that ultimately when the city reaches him his subdivision will be in accord with the city plan and connect smoothly with streets extended from the city. This has been a work of considerable magnitude, and the Commissioners are largely indebted to Mr. W. P. Richards, who has been assistant engineer in charge since the inception of the work, for the manner in which the many difficult problems in connection therewith have been met and overcome.

In conclusion, it is deemed only fitting to acknowledge the good work of the assistants and of the clerical force of the various departments of the office, who have not spared themselves in carrying out their duties to the best of their ability.

Very respectfully,

HENRY B. F. MACFARLAND,  
JOHN W. ROSS,  
LANSING H. BEACH,  
*Commissioners of the District of Columbia.*



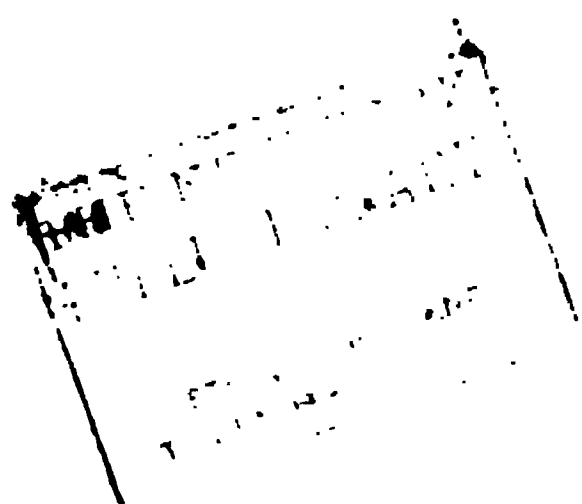






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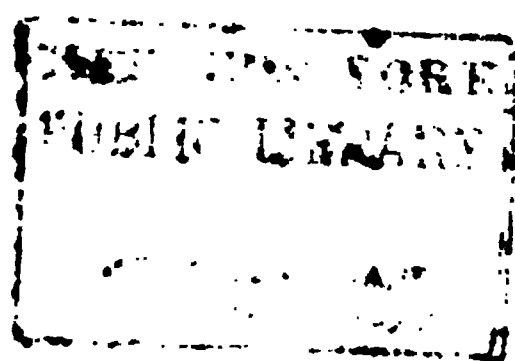












100-200000

**DEVICE FOR MEASURING LOSS OF THERMAL STABILITY**

101



The completion of the Brightwood reservoir permits of nearly all pumping being done at night, thus relieving the low-service mains of a very heavy draft—at least 350,000 gallons per hour during the daytime. This results in an increase of from 6 to 8 feet in the head of water available on Capitol Hill between 7 a. m. and 4 p. m., at which latter hour it is usually necessary to start one of the large pumps. There is, of course, a corresponding decrease in the head available over a part of the gravity system at night.

There have been no changes of importance at the U street pumping station during the year, except the equipping of two boilers with Roney mechanical stokers, and of two with the Hawley down-draft furnaces. The chief object of these changes was to prevent the emission of smoke from the pump-house stack and incidentally to obtain greater economy in fuel consumption; in both respects the installation has been successful.

The following are the principal data of interest from the pumping station records:

Water pumped during year:		
Middle service .....	million gallons..	2, 427. 5
High service.....	do.....	75. 4
Total.....	do.....	2, 502. 9
Water pumped per day, mean:		
Middle service .....	gallons..	6, 651, 000
High service.....	do.....	206, 600
Total.....	do.....	6, 857, 600
Mean total head pumped against—		
Middle service.....	feet..	162
High service.....	do.....	355
Equivalent quantity of water pumped against a head of 100 feet:		
Middle service.....	gallons..	10, 775, 000
High service.....	do.....	733, 000
Total.....	do.....	11, 508, 000
Coal burned during year .....	pounds..	4, 440, 000
Coal burned per day, mean .....	do.....	12, 160
Cost of coal during year .....		\$4, 413. 86
Cost of coal per day, mean .....		\$12. 09

Cost of pumping during year.

Running expenses at station—		
Labor .....		\$12, 052. 74
Coal.....		4, 413. 86
Oil .....		598. 04
Waste .....		202. 81
Miscellaneous supplies.....		706. 62
Material used in repairs.....		774. 30
Total .....		18, 748. 37
Per day, mean .....	\$51. 37	
Cost of land.....	2, 275. 00	
Cost of building .....	30, 000. 00	
Cost of machinery.....	75, 000. 00	
Total .....	107, 275. 00	
Interest at 3 per cent .....		3, 218. 25
Per day .....	\$8. 82	
Depreciation on building and machinery—3 per cent on \$105,000 .....		3, 150. 00
Per day.....	\$8. 63	
Grand total.....		25, 116. 62
Per day.....		68. 82







Doubling friction loss for deterioration of mains we have a probable head at Pennsylvania avenue and Rock Creek and at New Jersey avenue and M street, under assumed conditions, of  $146-16=130$ .

Under ordinary conditions it is believed that the head at these points would not be less than 138 or 140 feet.

It seems from the above that about equal amounts of water would reach this area from the distributing reservoir and from that near Howard University.

In estimating the location and sizes of necessary trunk mains to supply the gravity area, the following plan was followed, no attention being paid in the preliminary work to the location of existing mains:

Lines were drawn from the two sources of supply as nearly as practicable through the middle of the gravity areas and lines for secondary trunk mains drawn from the first lines, as shown on sheet No. 1<sup>1</sup> herewith.

In estimating the sizes of the mains the territory to be supplied from each was subdivided into convenient areas, these measured by planimeter and a maximum supply estimated for a population of 30,000 per square mile at a rate of 360 gallons per capita per diem, plus the amount necessary for fire streams.

The amount to be supplied at a given point being thus estimated, the size of main necessary to carry it with a friction loss of head of from 1 foot to 1.5 feet per 1,000 feet was taken from Weston's tables of "Friction of water in pipes."

The loss of head is but one-half of that allowable under conditions stated for maintenance of about 30 pounds per square inch at curb level, thus leaving a margin of 1 to 1.5 feet friction loss for deterioration of pipes.

While the above provides for but 30 fire streams, this is under the condition that good service pressures are simultaneously maintained over the whole gravity area under extreme conditions of domestic supply.

The use of a greater number of streams would simply result in a temporary decrease of service pressures along the line of the trunk mains feeding them, and this decrease would occur only if the need for fire streams occurred during the hour of maximum general demand.

As before stated, all water for Anacostia must pass through the gravity mains of Washington. Assuming an increase of population from the present 11,000 to 30,000, and the need of 15 fire streams, we have a maximum rate of flow to this section of about 16,000,000 gallons in 24 hours. As indicated on sheet 1,<sup>1</sup> this will require a main 36 inches in diameter. This additional amount is provided for in the mains from the new reservoir, passing north and south of Capitol Hill.

Sheet No. 2<sup>1</sup> shows a modification of proposed new mains, to utilize as far as possible the existing lines. In this connection the following table of comparative capacities, taken from Weston's tables of friction, may be of interest:

[Capacity in gallons in 24 hours, with loss of head of 1 foot per 1,000 feet new pipe.]

Size of main.	Capacity.	Size of main.	Capacity.
48 inches .....	29,000,000	16 inches .....	1,850,000
36 inches .....	14,000,000	12 inches .....	880,000
30 inches .....	8,900,000	10 inches .....	550,000
24 inches .....	5,100,000	8 inches .....	300,000
20 inches .....	3,200,000	6 inches .....	149,000

Principal trunk mains only are indicated.

Following are lengths and sizes as platted an sheet No. 2:<sup>1</sup>

	Linear feet.
48 inches .....	25,000
42 inches .....	22,500
36 inches .....	20,000
30 inches .....	3,000
24 inches .....	3,300
20 inches .....	7,200
16 inches .....	9,000
<div>90,000=17½ miles.</div>	

<sup>1</sup> Not printed.



The mains indicated on the map are estimated on this basis and the new ones needed to fulfill the conditions aggregate as follows:

3,500 feet 20-inch, at \$4 .....	\$14,000
2,200 feet 24-inch, at \$5.50 .....	45,100
1,600 feet 30-inch, at \$8 .....	60,800
1,000 feet 36-inch, at \$10 .....	340,000
1,200 feet 48 inch, at \$16 .....	148,800
Total .....	608,700

Many of these mains would not be needed at once if this system were adopted.

The present population over the area described is about 100,000, and the mean per capita daily consumption and waste does not exceed 165 gallons.

$16,500,000 \times 1.8 = 29,700,000$  gallons; adding 5,000,000 for extinction of fires, we have a total rate to be provided for of about 35,000,000.

This would be well covered by an installation of three 12,000,000-gallon pumping engines, which would work against a pressure of about 35 pounds per square inch—the head necessary to give a minimum of about 30 pounds per square inch at curb level.

The only large mains immediately needed, if this general system were adopted, would be a 48-inch from the pump house south on Eighth street to R street, a 42-inch from R to K streets, and a 36-inch from K to East Capitol and Third streets, as shown on map herewith.

Second high service, lying between 140 feet and 210 feet.

#### ELEVATION.

Total area suitable for building, about  $4\frac{1}{2}$  square miles. Assuming a population of 20,000 per square mile, total population to be provided for, 90,000.

As this area is to be supplied through a reservoir, the mean rate only need be provided for in estimating pump capacity:  $90,000 \times 200 = 18,000,000$  gallons in 24 hours.

The present population, however, is but 20,000, and the per capita rate does not exceed 165 gallons per diem. Therefore, the pump capacity at present needed, if the general system outlined be adopted, would be only  $20,000 \times 165 = 3,300,000$  gallons in 24 hours.

The mains for the supply of this area, as shown on the map, are calculated for the greater supply. They aggregate as follows:

12,000 feet 36-inch, at \$10 .....	\$120,000
30,200 feet 30-inch, at \$8 .....	241,600
4,000 feet 24-inch, at \$6 .....	24,000
1,000 feet 20-inch, at \$4 .....	4,000
	389,600

Third high-service area, between 210 and 360 feet.

#### ELEVATION ABOVE TIDE.

This area, including the greater part of the ground of the Soldiers' Home and of Rock Creek Park, amounts to about  $13\frac{1}{2}$  square miles, for the most part thinly settled.

It is at present supplied from the reservoir at Reno by means of the long 12-inch mains.

Owing to the length of these mains and consequent great frictional resistance, it is impracticable to pump from the U street station a greater amount than about 1,500,000 gallons in 24 hours.

For the same reason the delivery at the higher parts of Petworth with the present system would scarcely exceed 1,000 gallons per minute, or enough for about four good streams for fire purposes.

The cost of laying a 36-inch main from Reno to Petworth would probably not be less than \$260,000.

For these reasons it is suggested that a 36-inch main be laid from the proposed pump house to connect with the end of the present 12-inch main in Petworth. By this arrangement the reserve supply from Reno will be available for ordinary domestic use, and direct high-pressure pumping from the station can be resorted to in case of a serious fire. Extensions would be made as needed.

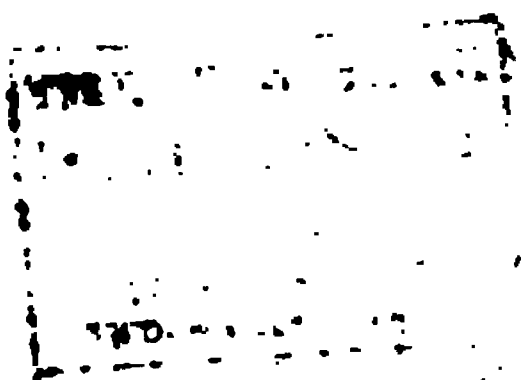
Owing to the proximity to the reservoir of that part of the third high-service area north and south of Reno, the reservoir alone can be depended upon to provide it with adequate fire service.

When the amount of water used on this service warrants it, a pumping station



1944

1944







## 80 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

The estimated cost of the foregoing is as follows:

Pump house and new pumps.....	\$300
4,200 feet 48-inch main, at \$16.....	67
15,000 feet 36-inch main, at \$11.....	165
2,000 feet 12-inch main, at \$1.50.....	3
Removal of pumps.....	1
Installation at Reno.....	1
<hr/>	
Total.....	540
Miscellaneous.....	50
<hr/>	
Grand total.....	590

The preliminary estimate for the complete project remains about the same as in the report of January 6, 1899. For the reasons given in that report it is urged that immediate action be taken toward the adoption of this or some other project for the rearrangement of the distribution system of the District.

Very respectfully,

W. A. MCFARLAND,  
*Superintendent Water Department*

Capt. D. D. GAILLARD,  
*Corps of Engineers, U. S. A.,*  
*Assistant Engineer Commissioner, District of Columbia.*

The projected trunk mains are those referred to in this second report.

This general project has been approved and the following steps taken toward execution:

1. One basin of Brightwood reservoir completed and contract made for second basin.
2. Ten thousand nine hundred linear feet of 36-inch main laid, connecting reservoir with the city.
3. General plans prepared for new pumping station, and architects invited to submit competitive designs therefor. These designs are to be received on August 1.
4. Specifications drawn for two 20,000,000-gallon high-duty pumping engines, contract for same entered into with the Edward P. Allis Company, of Milwaukee. Contract price for both engines, \$148,000.
5. The use of a plot of land belonging to the United States, containing about 10 acres, situated on Trumbull street, just south of the Howard University reservoir granted to the District of Columbia by the Secretary of War as a site for the pumping station. A contract has been entered into for the grading of this site the work is now in progress.
6. Surveys have been made for line of 36-inch pipe needed to connect the pumping station with the trunk main at Thirteenth street and Florida avenue, leading to the Brightwood reservoir.

Following are abstracts of all bids received for work which was advertised during the past year:

*Proposals for completing Brightwood reservoir, opened May 5, 1900.*

<sup>1</sup> Contract awarded.

*Proposals for erecting two gatehouses at Brightwood reservoir, opened May 19, 1900.*

Name of bidder.	Each.
J. F. Manning & Co.....	\$18,998.00
D. F. Mockbee .....	25,915.00

All bids rejected.

*Proposals for furnishing two 36-inch check valves, opened May 26, 1900.*

Name of bidder.	Each.
Frank W. Dilks.....	\$855.00
Eddy Valve Co .....	800.00
Michigan Brass and Iron Works <sup>1</sup> .....	580.00
Rensselaer Manufacturing Co.....	598.00

<sup>1</sup> Contract awarded.

*Proposals for excavating on site for new pumping station, opened June 9, 1900.*

Name of bidder.	Price per cubic yard (estimated quantity 15,000).
M. F. Talty.....	\$0.21
Lyons Bros .....	.23
Geo. S. Post.....	.30
Andrew Gleeson <sup>1</sup> .....	.14½

<sup>1</sup> Contract awarded.

*Proposals for furnishing and erecting two 20-million gallon pumping engines, opened June 30, 1900.*

Name of bidder.	On District of Columbia specifications without modifications.	On District of Columbia specifications with direct connected auxiliaries.	On District of Columbia specifications, but with both direct and independent auxiliaries.	Rotary pump driven by vertical triple expansion engine.	Rotary pump driven by vertical quadruple expansion engine 250 pounds steam pressure.	Same as preceding, but including boiler.
The Edw. P. Allis Co., of Milwaukee, Wis.....	\$210,000	<sup>1</sup> \$148,000	\$151,000			
The Camden Iron Works, of Philadelphia, Pa.....	171,000		170,000			
The Holly Manufacturing Co., of Lockport, N. Y .....	216,525	181,790				
The P. H. & F. M. Roots Co., of Connersville, Ind.....	350,000			\$229,000	\$219,000	\$230,000

<sup>1</sup> Contract awarded.

During the next fiscal year it is expected that the Brightwood reservoir will be completed, plans secured for new pumping station and contract made for its erection, contract made for steam plant for station, and for all main pipe work in its immediate vicinity, and surveys made for general extension of trunk mains in accordance with the approved project.

The contract for the new pumping engines requires their completion by December 31, 1902.

The early establishment of a small pumping station in Anacostia will be necessary if satisfactory water pressures are to be secured for that part of the District.

A general increase of water pressures on Capitol Hill and over the higher parts of the gravity system in the northwest can not be secured until after the completion of the new Washington Aqueduct extension.

Very respectfully, your obedient servant,

W. A. McFarland,  
Superintendent Water Department.

Capt. LANSING H. BEACH,  
Corps of Engineers, U. S. A.,  
Engineer Commissioner, District of Columbia.  
(Through Captain Gaillard.)

TABLE I.—Mains laid and miscellaneous work during the fiscal year ending June 30, 1900.

New mains laid:	
36 inches diameter.....	linear feet.. 10,902
24 inches diameter.....	do .... 35
20 inches diameter.....	do .... 1,282
16 inches diameter.....	do .... 48
12 inches diameter.....	do .... 157
6 inches diameter.....	do .... 53,116
4 inches diameter.....	do .... 4,211
3 inches diameter.....	do .... 2,116
2 inches diameter.....	do .... 17
1½ inches diameter.....	do .... 458
Six-inch connections to fire hydrants.....	do .... 722
Mains lowered.....	do .... 1,000
New stop valves.....	225
Fire hydrants erected.....	50
Fire hydrants moved to new locations.....	3
Public hydrants erected .....	2
Fountains erected.....	4

TABLE II.—Summary of the distribution system.

Size of mains.	In service prior to June 30, 1899.	Added during the fiscal year.	Total June 30, 1900.
75 inches diameter.....linear feet..	660	.....	660
48 inches diameter.....do....	30,000	.....	30,000
36 inches diameter.....do....	23,180	10,902	34,082
30 inches diameter.....do....	37,720	.....	37,720
24 inches diameter.....do....	21,510	35	21,545
20 inches diameter.....do....	35,084	1,282	36,366
16 inches diameter.....do....	2,460	48	2,508
12 inches diameter.....do....	192,860	157	192,517
10 inches diameter.....do....	10,255	.....	10,255
Total trunk mains.....do....	.....	.....	365,658
8 inches diameter.....do....	6,005	.....	6,005
6 inches diameter.....do....	1,876,131	<sup>1</sup> 12,938	1,389,069
4 inches diameter.....do....	126,224	<sup>2</sup> 3,471	129,695
3 inches diameter.....do....	58,384	2,116	60,500
2 inches diameter.....do....	4,101	17	4,118
1½ inches diameter.....do....	2,703	458	3,156
Grand total .....	1,926,777	31,419	1,958,196
Stop valves.....number..	8,812	225	4,037
Fire hydrants.....do....	1,906	50	1,956
Public hydrants .....	336	2	<sup>3</sup> 333
Service connections .....	45,057	134	45,191
Horse fountains.....do....	77	4	81

<sup>1</sup>Total length of 6-inch main laid: 53,838 feet minus 40,900 feet abandoned (this includes mains abandoned during preceding fiscal year) on account of electric-railway construction. Net gain 12,938 feet, as above.  
<sup>2</sup>Total length of 4-inch main laid: 4,211 feet minus 740 feet; abandoned on account of electric-railway construction. Net gain 3,471 feet, as above.  
<sup>3</sup>Five public hydrants abandoned.





TABLE III.—Statement showing cost of water mains laid, etc.—Continued.

Location.	Size.	Length.	Cost of material.	Cost of labor.	Total cost.
	<i>Inches.</i>	<i>Lin. feet.</i>			
Connections and appurtenances .....			\$2,459.28	\$646.18	\$3,105.44
Unfinished mains June 30, 1899.....				794.16	794.16
Unfinished mains June 30, 1900.....				486.04	486.04
Lowering mains.....				625.46	625.46
Total .....			78,084.07	34,460.35	112,544.42
Cost of laying mains, connections, etc., including repairs to improved pavements .....			78,084.07	34,460.35	112,544.42
Cost of erecting fire hydrants, including repairs to improved pavements .....			8,370.20	674.52	4,044.72
Cost of superintendence .....				1,741.30	1,741.30
Grand total.....			81,454.27	36,876.17	118,330.44

TABLE IV.—Statement of the lengths and costs of water mains laid from July 1, 1878, to June 30, 1900.

*NOTE.*—In the following years pipe specified was laid under permit system and for connections to fire hydrants, cost not included in above table: 1887, 1,074 feet of 12-inch; 1890-1892, 45,246 feet of all

sizes; 1893, 434 feet of 3-inch, 4-inch, and 6-inch, and 1,939 feet of 6-inch for fire hydrants; 1895, 14,790 feet of 3 and 6 inch, and 3,406 feet of 6-inch for fire hydrants; 1896, 18,200 feet of 3, 4, and 6 inch and 1,004 feet of 6-inch for fire hydrants; 1897, 1,837 feet of 6-inch and 3,656 feet of 4-inch and 696 feet of 6-inch for fire hydrants; 1898, 907 feet of 8-inch, 3,480 feet of 6-inch, 389 feet of 4-inch, 107 feet of 3-inch, and 146 feet of 1½-inch, and 1,305 feet of 6-inch for fire hydrants; 1899, 33,619 feet of 6-inch, 10 feet of 4-inch, 81 feet of 3-inch, and 452 feet of 6-inch for fire hydrants; 1900, 30 feet of 12-inch, 2,277 feet of 6-inch, 1,066 feet of 4-inch, 332 feet of 3-inch, 17 feet of 2-inch, 453 feet of 1½-inch, and 722 feet of 6-inch for fire hydrants.

TABLE V.—Average cost per foot of laying mains of various sizes, excluding repairs to improved pavements during the fiscal year ending June 30, 1900.

Size.	Linear feet.	Cost of material.	Cost of labor.	Cost of superintendence.	Total cost.
3 inches diameter .....	1,784	\$0.2352	\$0.2041	\$0.0100	\$0.4493
4 inches diameter .....	2,878	.2556	.2420	.0119	.5095
6 inches diameter .....	37,178	.5053	.2586	.0127	.7766
20 inches diameter .....	1,233	3.1878	1.5428	.0756	4.8082
36 inches diameter .....	10,902	4.7663	1.6251	.0796	6.4719

TABLE VI.—Average cost per square yard of relaying improved pavements during the fiscal year ending June 30, 1900.

Cobble .....	\$0.39
Brick .....	.20
Vitrified brick .....	1.40
Belgian .....	1.15
Asphalt block .....	1.15
Sheet asphalt .....	2.02

TABLE VII.—Statement of the lengths and cost of water mains laid under the appropriation for the extension of the high-service system of water distribution from July 1, 1893.

Size of main.	Laid to June 30, 1899.	Added during the fiscal year.	Total laid to June 30, 1900.
	Lin. feet.	Lin. feet.	Lin. feet.
1½-inch .....	2,717		2,717
2-inch .....	1,095		1,095
8-inch .....	660	1,148	1,808
4-inch .....	4,324	398	4,722
6-inch .....	127,285	17,008	144,293
12-inch .....	81,545	127	81,672
16-inch .....		48	48
20-inch .....	13,247	1,282	14,529
24-inch .....	6,911	35	6,946
36-inch .....		10,902	10,902
Total .....	237,784	30,948	268,732

Total cost to June 30, 1899.....	\$281,085.99
Cost for fiscal year ending June 30, 1900.....	88,881.44
Total cost to June 30, 1900.....	369,967.44

TABLE VIII.—Average daily consumption, middle and high services.

Month.	Middle service.	High service.	Month.	Middle service.	High service.
1899.	Gallons.	Gallons.	1900	Gallons.	Gallons.
July .....	5,679,000	201,550	January .....	6,972,800	172,610
August .....	5,635,860	150,660	February .....	8,032,500	236,590
September .....	5,963,560	183,670	March .....	7,458,360	215,890
October .....	6,468,300	156,910	April .....	7,947,670	205,500
November .....	5,732,100	161,300	May .....	6,873,000	264,450
December .....	6,843,900	225,390	June .....	6,893,960	215,140





TABLE I.—Financial statement from July 1, 1899, to June 30, 1900.

Revenues:			
Balance to the credit of the water fund July 1, 1899.....	\$326,575.66		
Schedule water rents .....	\$238,592.87		
Meter water rents.....	47,664.76		
		286,257.63	
Current water-main tax.....	27,928.19		
Advertised water-main tax.....	19,290.19		
	47,218.38		
Less abatements, at 6 per cent .....	586.85		
		46,631.53	
Interest on current water tax .....	1,944.83		
Interest on advertised water tax .....	4,844.34		
		6,789.17	
Water taps and stopcocks .....		5,208.15	
Permits and miscellaneous.....		4,452.53	
			\$675.17
Expenditures:			
Salaries .....	30,016.00		
Contingent expenses.....	2,253.77		
Refunded water rents .....	1,474.22		
Pumping expense and pipe distribution .....	120,139.33		
High service.....	268,815.45		
Interest on water bonds .....	6,022.00		
		428,720.77	
Less repayments.....		37,741.21	
			390,978.56
Balance to credit of water fund July 1, 1900.....			284,113.97

TABLE II.—Comparative statement of revenues.

Fiscal year.	Water rents.	Water-main assessments.	Taps and stopcocks.	Permits, etc.	Total
1890.....	\$197,053.34	\$45,386.55	\$5,313.72	\$6,327.95	\$254,081.56
1891.....	209,664.29	50,332.93	5,640.00	6,869.79	272,506.01
1892.....	220,892.93	68,807.35	5,790.00	6,280.81	301,770.99
1893.....	235,911.25	70,026.33	7,307.09	7,931.71	321,176.38
1894.....	245,899.69	86,975.44	4,497.00	1,168.79	338,530.92
1895.....	251,872.71	72,972.24	4,537.55	2,100.60	331,482.10
1896.....	255,439.11	27,666.57	4,026.00	1,191.09	288,322.77
1897.....	253,500.16	53,653.39	5,157.00	1,128.28	313,438.83
1898.....	264,784.48	58,152.56	6,910.65	1,104.42	330,952.11
1899.....	276,065.54	62,937.43	6,327.00	1,545.15	346,875.12
1900.....	286,257.63	53,420.70	5,208.15	4,452.53	349,338.01
1901 <sup>1</sup> .....	290,000.00	60,000.00	7,000.00	1,200.00	358,200.00
1902 <sup>1</sup> .....	295,000.00	60,000.00	8,500.00	2,000.00	365,500.00

<sup>1</sup> Estimated.

TABLE III.—Statement of assessments and collections of water-main taxes from July 1, 1878, to June 30, 1900.

Fiscal year.	Amount of water-main tax assessed.	Duplicate and overpayments.	6 per cent abatement.	Amount of water-main tax canceled.	Amount of water-main tax collected.	Amount of water-main tax outstanding July 1, 1900.
From July 1, 1878, to June 30, 1899.....	<sup>1</sup> \$1,220,785.49	\$2,104.45	\$28,259.07	\$206,190.54	\$825,620.67	\$162,114.91
1900.....	38,237.97		586.85	<sup>2</sup> 12,554.26	53,989.55	<sup>3</sup> 28,114.91
Total.....	1,259,023.46	2,104.45	28,845.92	218,744.80	879,610.22	133,114.91

<sup>1</sup> Of this amount \$94,124.78 was outstanding and uncollected July 1, 1878.  
<sup>2</sup> \$12,189.87 of this amount was canceled under act of June 2, 1900, and can be reassessed.  
<sup>3</sup> This amount is the excess of the amounts collected, canceled, and abated over the tax levied.

RECAPITULATION.

Amount of assessments and duplicate payments .....	\$1,261,138.37
Amount of abatement, at 6 per cent .....	28,845.92
Amount of water-main tax canceled since July 1, 1878 .....	218,744.80
Amount of water-main tax collected from July 1, 1878, to June 30, 1900.....	879,610.22
Amount of water-main tax outstanding July 1, 1900.....	133,114.91
	1,261,138.37

BLE IV.—*Premises in the District of Columbia supplied with Potomac water.*

Number of dwellings—	North-west.	North-east.	South-west.	South-east.	Total.
0. 1899 .....	25, 671	4, 852	7, 617	5, 970	44, 110
ing June 30, 1900.....	627	198	144	125	1, 094
al .....	26, 298	5, 050	7, 761	6, 095	45, 204

MISCELLANEOUS WATER TAKERS.

	North-west.	North-east.	South-west.	South-east.	Total.
.....	5				5
ops .....	105	31	19	19	174
.....	21	6	5	9	41
.....	1		1	1	3
s .....	226	79	15	32	352
houses.....	260	13	16	17	306
ses .....	4				4
le pots.....	1		1		2
.....	42	14	9	10	75
as .....	8		1	1	10
engines .....	2				2
oms .....	64	7	1	3	75
es .....	3				3
.....	15	2	3		20
ouses.....	10	1	2	2	15
.....	6		1		7
es .....	3				3
ent reservations .....	32	6	3	5	46
ses .....	10				10
.....	17	5	1	3	26
.....	6			1	7
.....	80	16	17	21	134
.....	183	10	20	16	229
tions.....	6	1	1	1	9
h galleries .....	12				12
.....	639	114	170	102	1, 025
.....	130	9	19	15	173
gines.....	6				6
.....	1, 463	336	222	251	2, 272
ools.....	51	10	14	14	89
hools.....	14	1	1	1	17
ls .....	4				4
re department.....	3	1			4
es .....	26	6	6	1	39
coal yards.....	6	1		1	8
al .....	3, 464	669	548	526	5, 207

SUMMARY, BY LOCATION, OF MISCELLANEOUS WATER TAKERS.

Location.	Houses supplied with Potomac water.		Miscellaneous water takers.	
	Number.	Per cent.	Number.	Per cent.
t section .....	26, 298	58. 17	3, 464	66. 52
: section .....	5, 050	11. 17	669	12. 86
t section .....	7, 761	13. 49	548	10. 52
: section .....	6, 095	17. 17	526	10. 10
al.....	45, 204	.....	5, 207	.....



## REPLACING OBSTRUCTED SEWERS.

There were constructed, by day labor, 9,528 linear feet of pipe sewers, varying from 8 to 24 inches in diameter; 1,233 linear feet of 6-inch lateral connections, and 59 manholes. One hundred and seventy-seven house connections were made.

The appropriation for the current year will provide for the practical completion of the work of replacing the obstructed sewers which were constructed prior to the adoption of the present methods. Any work of this character required in the future will be small in amount and may be performed as minor repairs. No appropriation for the year 1902 is requested.

## MAIN AND PIPE SEWERS.

Main sewers were constructed, under contract, in O and P streets NW., between Thirty-fifth and Thirty-sixth streets; in Pennsylvania avenue NW., between Fifteenth street and Madison place; and in First street NE., between D and F streets; also 5,320.15 linear feet of pipe sewers, varying from 12 to 24 inches in diameter. By day labor there were constructed 14,046.22 linear feet of sewers, varying in size from 6 inches to 2.25 by 3.375 feet diameter, 86 manholes, and 106 receiving basins; divided among 128 jobs, the average length per job being 109.66 linear feet, and the average cost per job, \$249.20.

## SUBURBAN SEWERS.

Main sewers were constructed, under contract, in Quincy street, between Brightwood avenue and Seventh street; in Trinidad street, across land of W. S. Clark; in Ontario avenue, between Zoological Park and Lanier avenue; in Thirty-seventh street NW., between W and Y streets, and Y street, between Thirty-seventh and Thirty-eighth streets; also 4,585.3 linear feet of pipe sewers, varying in size from 12 to 24 inches in diameter. By day labor there were constructed 5,712 linear feet of pipe sewers, varying in size from 8 to 24 inches in diameter, and 34 manholes, divided among 25 jobs. The average length per job was 228.48 linear feet, and average cost per job, \$429.61.

## ASSESSMENT AND PERMIT WORK.

*Permit work.*—There were constructed 6,794 linear feet of pipe sewers, varying in size from 8 to 18 inches in diameter, divided among 43 jobs, averaging in cost per job \$232.07, in length of sewer per job 158 linear feet, and in cost per linear foot, \$1.469—.

*Assessment system.*—There were constructed 13,344.5 linear feet of pipe sewers, varying in size from 8 to 12 inches in diameter, divided among 61 jobs, averaging in cost per job, \$344.99; in length of sewer per job, 218.6 linear feet, and in cost per linear foot, \$1.58—.

*Whole cost work.*—100.19 linear feet, 4.5 feet diameter brick sewer, and 30 linear feet of 12 inches diameter pipe sewer were reconstructed at intersection of Fourteenth and D streets NW.; 6 linear feet 8-inch, 35 linear feet 18-inch, and 168 linear feet 21-inch diameter sewers were constructed in G street NW., between North Capitol and First streets, and 7 manholes, 6 basins, and connections were constructed.

## AUTOMATIC FLUSHING TANKS.

Five flushing basins in various localities were constructed from the appropriation for automatic flushing tanks.

## TIBER CREEK AND NEW JERSEY AVENUE HIGH-LEVEL INTERCEPTING SEWER.

Work under contract 2446 with J. K. Murphy is in progress, and 1,299 feet of sewer has been completed. Considerable difficulty was experienced in supporting the sides of the excavation at and adjacent to the crossing of B street. Traffic on the electric road was not interrupted, however.

Work under contract 2632 with T. B. Jones & Co. was completed. One thousand eight hundred and forty-six feet of sewer was constructed. Several houses on the



Table No. 8 shows work performed by day labor chargeable to various appropriations (of other departments) and the appropriation for automatic flushing tanks.

Table No. 9 shows average cost per foot of sewers constructed by day labor.

Table No. 10 shows number of inspectors, foremen, and other employees of the sewer division, office of the inspector of asphalt and cements, and the engineer stables temporarily required, and the appropriation from which paid for the year ending June 30, 1900.

Very respectfully, your obedient servant,

D. E. McComb,  
*Superintendent of Sewers.*

Capt. LANSING H. BEACH,  
*Corps of Engineers, U. S. A.,*  
*Engineer Commissioner, District of Columbia.*  
(Through Captain Gaillard.)

**44      OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.**

**TABLE 1.—Statement of sewers constructed under contr**

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<sup>1</sup> Includes \$16.25 cost of work by plumber; \$8 of this amount was charged to the contractor.  
<sup>2</sup> Includes \$157.35 for repairs to pavements outside of lines of sewer trench, charged to contractor  
and \$9.56 cost of repairs to water main, charged to contractor.

chargeable to appropriations for fiscal years 1899 and 1900.

Allowance to contractor.	Material furnished.		Cost of inspection.	Cost of repairs to pavements.	Total cost.	Appropriation.
	Chargeable.	Not chargeable.				
\$2,938.06	\$640.39	\$14.28	\$112.00	<sup>1</sup> \$186.83	\$3,891.56	Main and pipe sewers, 1899.
2,590.63	175.50	677.41	182.00	449.23	4,074.77	Do.
781.44	50.25	254.22	48.00	135.92	1,269.83	Do.
1,733.30	384.90	85.21	119.00	<sup>2</sup> 625.38	2,947.79	Do.
776.72	59.00	221.24	52.00	18.90	1,127.86	Do.
495.27	40.72	138.94	38.00	55.97	768.90	Do.
305.62	22.00	105.51	24.00	74.61	531.74	Do.
284.34	21.00	58.41	16.00	75.10	454.85	Do.
301.39	30.75	71.68	36.00	79.61	519.43	Do.
498.76	48.50	100.21	88.00	107.21	842.68	Main and pipe sewers, 1900.
1,126.82	85.47	446.10	92.00	.....	1,750.39	Do.
<sup>3</sup> 1,842.98	.....	.....	236.00	.....	2,078.98	Do.
5,383.66	827.51	6.02	221.50	.....	6,438.69	Suburban sewers, 1900.
1,353.45	383.46	12.24	80.00	.....	1,829.15	Do.
1,285.04	56.25	176.25	98.00	.....	1,615.54	Do.
1,306.67	105.00	517.18	94.00	.....	2,022.85	Do.
576.53	27.00	109.90	20.00	.....	733.43	Do.
674.02	40.50	115.46	82.00	.....	911.98	Do.
3,864.69	786.73	184.14	274.00	.....	5,109.56	Do.
2,125.32	180.64	832.07	250.00	.....	3,388.03	Do.
3,606.87	1,116.37	27.74	180.00	.....	4,930.98	Do.
<sup>3</sup> 12,723.60	.....	.....	834.00	.....	13,557.60	East side interceptor, between Twelfth street and pumping station, 1900.
<sup>4</sup> 181,885.90	.....	.....	6,593.62	.....	<sup>4</sup> 188,479.52	Tiber Creek and New Jersey avenue high-level intercepting sewer.
<sup>5</sup> 92,120.91	.....	.....	2,479.00	.....	<sup>4</sup> 94,599.91	North portion Tiber Creek and New Jersey avenue high-level intercepting sewer.

<sup>3</sup> Work incomplete; payment made on account.

<sup>4</sup> Includes work previously reported upon.

<sup>5</sup> Final voucher not made out.









ment system.

Basins and justed.	Basins con- structed.	Manholes.	Branches.	Cost to District of Columbia.	Cost to property owners.	Total cost.	Overseer.	Date of com- pletion.
		2	7	\$356.38	\$356.38	\$712.76	Lanigan .....	Jan. 8, 1900
		1	2	37.45	37.45	74.90	Ward .....	Nov. 8, 1899
			7	104.86	104.87	209.73	do .....	June 11, 1900
		2	16	247.74	247.73	495.47	Lanigan .....	Apr. 14, 1900
				10.04		10.04		<sup>1</sup> Feb. 9, 1900
		2	12	243.89	243.89	487.78	Ward .....	Feb. 16, 1900
			3	92.49	92.48	184.97	Lanigan .....	Aug. 18, 1899
	1					51.09	do .....	<sup>2</sup> Oct. 10, 1899
		3	2	811.93	811.93	1,623.86	Ward .....	Mar. 25, 1900
	1					62.95	Lanigan .....	<sup>2</sup> May 18, 1900
		2	20	241.29	241.28	482.57	Prince .....	June 18, 1900
	1					97.32	Condon .....	<sup>2</sup> Nov. 3, 1899
		1	21	143.26	143.27	286.53	Ward .....	Dec. 11, 1899
		1	6	127.26	127.27	254.53	Lanigan .....	Jan. 15, 1900
		1		177.64	177.65	355.29	Prince .....	May 5, 1900
	1					46.01	Lanigan .....	Feb. 10, 1900
		1	7	60.18	60.18	120.36	do .....	May 3, 1900
			5	39.02	39.03	78.05	do .....	May 4, 1900
1						6.15	do .....	<sup>2</sup> May 11, 1900
	1					76.31	do .....	<sup>2</sup> May 14, 1900
		1	12	131.08	131.08	262.16	Ward .....	June 11, 1900
		1	15	168.62	168.62	337.24	Prince .....	June 27, 1900
		4	25	577.99	578.00	1,155.99	do .....	Apr. 5, 1900
		7	10	1,300.36	1,300.37	2,600.73	G. M. Thomas .....	<sup>3</sup> Feb. 17, 1900
		2	10	155.83	155.83	311.66	Ward .....	Oct. 26, 1899
		1	5	143.14	143.15	286.29	do .....	Feb. 6, 1900
		2	6	158.61	158.61	317.22	Prince .....	( <sup>4</sup> )
		1	12	212.72	212.71	425.43	do .....	Jan. 20, 1900
		1	1	204.97	204.98	409.95	Ward .....	May 31, 1900
		1	4	85.74	85.74	171.48	do .....	Feb. 5, 1900
		3	11	467.27	467.27	934.54	do .....	June 6, 1900
		2	2	285.87	285.88	571.75	Prince .....	Jan. 17, 1900
		1	15	243.31	243.30	486.61	do .....	Jan. 25, 1900
		2	10	511.89	511.88	1,023.77	do .....	( <sup>4</sup> )
		21				3,528.37	{ J. A. Neville S. D. Mackey .....	<sup>5</sup> Oct. 17, 1899
		2		282.47	282.47	564.94	Prince .....	Aug. 5, 1899
		1		64.25	64.25	128.50	do .....	Aug. 8, 1899
		2	8	180.46	180.46	360.92	Thomas .....	June 12, 1900
		2	8	212.84	212.84	425.64	do .....	( <sup>4</sup> )
			5	110.00	110.00	220	do .....	( <sup>6</sup> )
		2	5	198.61	198.61	397.22	do .....	( <sup>6</sup> )
		1	4	173.68	173.68	347.36	Ward .....	June 6, 1900
		3	18	201.47	201.46	402.93	Prince .....	Nov. 2, 1899
		1	5	60.67	60.67	121.34	Ward .....	Sept. 30, 1899
		1		104.73	104.73	209.46	Prince .....	June 8, 1900

<sup>5</sup> Not assessable against abutting property, authorized by appropriation bill for fiscal year 1899; charged appropriation for assessment and permit work, 1899. Constructed under contract by Adam McCandlish.

<sup>6</sup> Work completed in fiscal year 1901.

TABLE 3.—*Assessment*

<sup>1</sup> Work performed at request of surface department.  
<sup>2</sup> Awaiting bill for repairs to pavements.

Continued.

Basins a d-justed.	Basins con-structed.	Manholes.	Branches.	Cost to District of Columbia.	Cost to property owners.	Total cost.	Overseer.	Date of com-pletion.
		2	11	\$230.82	\$230.83	\$461.65	Ward .....	Nov. 8, 1899
	1	3	28	166.62	166.62	58.97	Lanigan .....	1 Sept. 4, 1899
		1	4	227.16	227.16	833.24	.....do .....	Sept. 27, 1899
						454.82	Ward .....	Oct. 21, 1899
		1	5	78.91	78.91	157.82	Lanigan .....	Apr. 6, 1900
		1	6	114.63	114.64	229.27	Prince .....	Aug. 21, 1899
	1					49.58	Lanigan .....	1 Sept. 20, 1899
		1	10	121.74	121.73	243.47	Prince .....	Oct. 27, 1899
	1					49.89	Lanigan .....	1 Dec. 9, 1899
		1	4	141.98	141.99	283.97	Prince .....	June 13, 1900
		1	5	86.81	86.81	173.62	.....do .....	Apr. 21, 1900
		1	8	83.46	83.46	166.92	Thomas .....	May 1, 1900
		1	8	194.20	194.21	388.41	Ward .....	( <sup>2</sup> )
		2	11	195.96	195.96	391.92	.....do .....	June 26, 1900
		2	7	232.79	232.79	565.58	.....do .....	June 21, 1900
			4	121.64	121.64	243.28	Prince .....	( <sup>2</sup> )
		2	9	117.59	117.58	235.17	Lanigan .....	Oct. 13, 1899
		3	18	305.30	305.31	610.61	Prince .....	Aug. 5, 1899
		1	1	186.28	186.29	372.57	.....do .....	Aug. 15, 1899
1	8	104	438	11,535.90	11,525.93	27,183.43		

<sup>2</sup> Work completed in fiscal year 1901.

TABLE 4.—



TE

- 1 Reconstructing manholes.
- 2 Chargeable to general deposit.
- 3 Awaiting bill for repairs to pavements.
- 4 Work begun in fiscal year 1899; amount expended in fiscal year 1899, \$1,207.56; aggregate cost of work performed, \$2,624.06.
- 5 Abandoning manhole.
- 6 Balance brought from job No. 312.

Whole cost.

4.5 feet diam- eter.	Amount of deposit.	Cost to property owner.	Total cost.	Amount returned.	For whom done.	Overseer.	Date of com- pletion.
.....	(1-2)	\$416.94	\$416.94	.....	Anacostia* and Potomac River R. R. Co.	Condon...	Apr. 14, 1900
.....	(2)	47.27	47.27	.....	do.....	Lanigan..	Jan. 10, 1900
.....	(2)	50.26	50.26	.....	do.....	do.....	Jan. 27, 1900
.....	(2)	72.92	(2)	.....	do.....	Condon...	
.....	(2)	113.56	113.56	.....	do.....	Lanigan..	Apr. 18, 1900
100.19	\$1,056.00	762.71	762.71	\$293.29	do.....	do.....	May 12, 1900
.....	(2)	48.39	48.39	.....	City and Suburban Rwy. Co.	do.....	May 24, 1900
.....	(2)	152.81	152.81	.....	Anacostia and Potomac River R. R. Co.	Condon...	May 28, 1900
.....	2,624.05	1,416.49	(4)	.....	Government Printing Of- fice.	Ward.....	Aug. 3, 1899
.....	10.00	6.30	6.30	3.70	A. B. Mullett & Co .....	Lanigan..	Oct. 18, 1899
.....	(4)	69.22	69.22	.....	Metropolitan R. R. Co .....	Condon...	Mar. 19, 1900
.....	(2)	87.72	87.72	.....	Anacostia and Potomac River R. R. Co.	do.....	May 8, 1900
.....	4.00	1.84	1.84	2.16	Theo. F. Swayze.....	Lanigan..	June 9, 1900
.....	35.00	31.61	31.61	3.39	J. Maury Dove .....	Condon...	Jan. 17, 1900
.....	100.00	86.33	86.33	(10)	Metropolitan R. R. Co .....	do.....	Mar. 26, 1900
.....	37.61	37.61	11 37.61	.....	U. S. Electric Light Co .....	Lanigan..	Nov. 8, 1899
.....	(2)	46.39	46.39	.....	Anacostia and Potomac River R. R. Co.	do.....	Mar. 22, 1900
.....	(2)	55.11	55.11	.....	Metropolitan R. R. Co .....	do.....	Apr. 26, 1900
.....	(2)	68.03	68.03	.....	Anacostia and Potomac River R. R. Co.	do.....	Feb. 14, 1900
.....	(2)	27.04	12 27.04	.....	Capital Traction Co.....	do.....	Dec. 13, 1900
100.19	3,866.66	3,598.55	2,109.14	302.54			

7 \$55.55 charged to general deposit.  
 8 Manhole reconstructed.  
 9 Lowering manhole.  
 10 Balance carried forward to job No. 311.  
 11 Basin reconnected.  
 12 Basin connection relaid.



TABLE 5.— *Work done by day labor under various*  
REPLACING OBSTRUCTED

<sup>1</sup>Six-inch pipe used in making connections.  
<sup>2</sup>Net cost is determined by deducting the cost of repairs to pavements and cost of connections from the total cost.  
<sup>3</sup>Includes \$15.22, cost of work by plumber.  
<sup>4</sup>Includes \$25.70, cost of work by plumber.  
<sup>5</sup>Includes \$21.54, cost of work by plumber.  
<sup>6</sup>Includes \$4.15, cost of work by plumber.  
<sup>7</sup>Includes \$49.39, cost of work by plumber.  
<sup>8</sup>Includes \$12.96, cost of work by plumber.

and appropriations, fiscal year 1900.

SEWERS.

41-24:

- <sup>9</sup> Includes \$2.70, cost of work by plumber.
- <sup>10</sup> Includes \$2.80, cost of work by plumber.
- <sup>11</sup> Includes \$4.25, cost of work by plumber.
- <sup>12</sup> Includes \$2.96, cost of work by plumber.
- <sup>13</sup> Includes \$2.96, cost of repairs to water pipe.
- <sup>14</sup> Includes \$22.55, cost of work by plumber.
- <sup>15</sup> Includes \$16.45, cost of work by plumber.
- <sup>16</sup> Includes \$5.26, cost of work by plumber.



778.

id (length t). h. 24-inch.	2.25 by 3.375.	2 by 3 feet.	Manholes	Basins.	Branches.	Cost of mate- rials.	Cost of labor.	Cost of repairs to pave- ments.	Total cost.
						\$107.27	\$139.82		<sup>1</sup> \$247.09
						255.47	208.85		<sup>2</sup> 458.82
8			2			419.44	618.51		1,037.95
			1			36.89	60.87	\$11.88	109.64
			2			79.81	142.54	2.19	224.54
				1		23.16	24.76	4.05	51.97
						12.23	18.74		<sup>3</sup> 30.97
						15.09	34.10	16.12	<sup>3</sup> 65.31
			1			4.30	20.75		<sup>3</sup> 45.05
			1	1		107.42	195.05		302.47
0				1		33.61	28.61		62.22
			1			135.16	496.81		631.97
				2		67.84	90.98	36.37	195.19
									<sup>4</sup> 15.00
			3		10	158.09	429.73	66.17	653.99
				1		28.64	28.86		57.50
				1		53.88	66.62		120.50
				1		39.97	44.63		84.60
				1		28.43	26.31	9.83	64.57
				1		25.33	23.35	9.80	58.48
				1		37.78	47.05	32.71	117.54
				3		80.62	87.61		168.23
				1		34.66	32.16		66.82
9						151.70	232.41	27.71	411.82
				1		28.40	37.06		65.46
				2		67.84	63.70	23.73	155.27
				1		27.56	28.63	6.30	62.49
					1	20.02	69.94	31.02	120.98
				1		32.87	31.47		64.34
4			2			206.78	322.39	23.57	552.74
				2		60.70	61.77		122.47
			1			37.55	52.55		90.10
			1			31.88	70.27		102.15
				2		63.46	75.47	10.50	149.43
			2	1		141.33	288.64	27.13	457.10
				1		27.06	30.23		57.29
				1		26.10	29.50		55.60
				1		30.39	39.18	9.95	79.52
				1		32.41	31.80		64.21
				1		34.00	33.70		67.70
				1		32.67	36.89		69.56
						26.56	44.30	21.79	92.65
				1		25.33	20.19	8.60	54.12
			3			213.06	523.80	230.18	967.04
				2		62.95	75.46		138.41
				1		25.29	34.74		60.03
			2		13	198.10	378.58	<sup>5</sup> 112.07	688.75
				1		31.90	30.19		62.09
2			2		16	278.66	642.53	<sup>6</sup> 44.31	965.50
			2		16	254.59	573.44	36.22	864.25
	224.6		1			418.64	838.52	38.64	1,295.80
84		107.62	2			295.28	677.66	33.56	1,006.50
			1		6	160.22	348.53	<sup>7</sup> 11.97	520.72
			1			13.01	44.00	35.00	<sup>8</sup> 92.01
5			1			50.68	76.16	16.85	143.69

<sup>5</sup> Cost of repairs to pavements includes \$5.53, cost of work by plumber.

<sup>6</sup> Cost of repairs to pavements includes \$2.64, cost of work by plumber.

<sup>7</sup> Cost of repairs to pavements includes \$5.47, cost of work by plumber.

<sup>8</sup> Work begun in fiscal year 1899.



continued.

In fiscal year 1899 cost of repairs to pavements includes \$19.84, cost of work by  
as to pavements includes \$21.12, cost of work by plumber.

TABLE 6.—Main and

No. of order.	Location.	Pipe sewers laid (length in feet).				
		6-inch.	8-inch.	10-inch.	12-inch.	15-inch.
573	Square 281.....			84		
580	Thirty-seventh and V streets NW.....				51	
582	Thirty-seventh and W streets NW. (northeast corner).....				21	
593	Twenty-second street NW., between C and D streets.....			54		
601	Twelfth and W streets NW. (northeast corner).....				15	
602	Thirteenth and V streets NW. (northeast corner).....				36	
603	Thirteenth and W streets NW. (northeast and north-west corners).....				42	
604	Thirteenth and U streets NW. (northeast corner).....				12	
605	Twelfth and V streets NW. (northeast corner).....				12	
609	Square 399.....	129			234	277
611	Thirteenth and Columbia streets NW. (southwest corner).....				30	
616	Square 236.....					
617	Square 293.....				198	
618	Thirty-third and R streets NW. (northeast corner).....			36		
619	Thirty-second and R streets NW. (northwest corner).....			60		
546	University place, opposite Euclid place NW.....			12		
575	Virginia avenue SW., just west of Delaware avenue.....				51	
572	W street NW., between Thirteenth and Fourteenth streets.....			188		
565	Around Hubbard School Building.....					
	Total .....	315	187	1,253	4,482	3,141

<sup>1</sup> Leveling dirt dumped on vacant lot.

pipe sewers—Continued.

	Total cost.
	\$116.21
	113.18
	64.14
	88.43
	64.56
	79.41
	163.22
	56.13
	58.42
	1,245.18
	74.30
	14.09
	836.63
	109.12
	87.20
	65.93
	106.96
	268.42
	* 107.41
	<u>32,603.55</u>

\*Constructing broken-stone drain; appropriation reimbursed out of appropriation, "Repairs to school buildings, 1900."





San sewers.

Pipe sewer laid (length in feet).				Man-holes.	Branches.	Cost of materials.	Cost of labor.	Cost of repairs to pavements.	Total cost.
15-inch.	18-inch.	21-inch.	24-inch.						
							\$84.51		<sup>1</sup> \$84.51
		321		2	6	\$315.70	608.14		923.84
				1	5	84.62	98.79		183.41
						26.61	57.63		84.24
257				1	1	132.08	325.69		457.72
	51			1		47.01	88.04		135.05
	612			2		872.45	701.77		1,074.22
	18			1		80.54	42.91		73.45
		341		1	7	300.12	476.13		776.25
30				1		82.88	59.30	\$5.16	96.82
	396			2	4	256.26	538.16		794.42
	51	204		2		232.05	344.86		576.91
243	57			2		171.53	321.59	25.80	518.92
118				1	2	69.84	163.09	23.58	256.51
				1		88.40	72.22		110.62
				1	1	130.83	288.41		419.24
206				1	4	116.84	528.28		645.12
300				2		166.60	832.73	31.48	530.81
	139			1	5	98.57	179.31		277.88
428				3	7	249.86	437.04	10.74	697.64
210				2		110.75	180.01	26.79	317.55
	234			1	9	152.22	263.08	11.44	426.74
				1	4	58.17	135.43		193.60
167	171		65	2	10	256.49	362.79	11.64	630.92
	162	120		2		221.08	332.71		553.79
1,959	1,893	986	65	34	65	3,620.93	6,972.62	146.63	10,740.18

<sup>1</sup> Digging test holes.



*fiscal year 1900, work performed by day labor.*

Basins ad-justed or recon- structed.	Man- holes ad- justed.	Basins.	Cost of material.	Cost of la- bor and contingen- cies.	Total cost.	Appropriations.
1		3	\$53.98	\$3.97 77.30	\$3.97 131.28	Repairs to roads, 1900. Do.
		1	31.14	<sup>1</sup> 48.08	79.22	Repairs to streets, 1900.
		1	25.06	24.21	49.27	Do.
		2	52.88	52.39	104.77	Do.
		1	33.05	41.15	74.20	Do.
		1	25.06	23.98	49.04	Improvements and repairs, north- east section, 1900.
		1	32.16	37.78	69.94	Do.
2			.53	9.08	9.61	Do.
		2	53.33	48.30	101.63	Do.
		2	43.93	43.65	87.58	Do.
		1	11.95	29.19	41.14	Do.
		1	22.27	40.23	62.50	Do.
		2	44.18	51.31	95.49	Do.
		4	100.26	120.95	221.21	Do.
		1	16.66	33.15	49.81	Do.
		1	28.62	29.78	58.40	Do.
1			16.66	20.50	37.16	Improvements and repairs, south- east section, 1900.
		2	34.94	52.67	87.61	Do.
1			1.82	6.29	8.11	Do.
		3	99.41	117.39	216.80	Do.
1			1.94	14.64	16.58	Improvements and repairs, north- west section, 1900.
		4	106.97	135.56	242.53	Do.
2			.89	7.94	8.83	Improvements and repairs, south- west section, 1900.
		1	22.87	35.69	58.56	Paving Sheridan circle, 1900.
2				5.37	5.37	Improvement and repairs to Georgetown, 1900.
1			.89	7.48	8.37	Do.
1		1	37.63	<sup>2</sup> 52.48	90.11	Do.
		1	25.53	28.58	54.11	D street SE., 1900.
	2		12.64	23.11	35.75	Grading and regulating Wilson street.
			19.94	<sup>3</sup> 382.26	<sup>4</sup> 402.20	Emergency fund.
			23.65	<sup>5</sup> 257.25	<sup>6</sup> 280.90	Do.
			165.21	156.87	<sup>7</sup> 322.08	North portion Tiber Creek and New Jersey avenue high level intercepting sewer.
12	2	36	1,145.55	2,018.58	3,164.13	

<sup>1</sup> Includes \$24.78, cost of repairs to pavements.

<sup>2</sup> Roping off Pennsylvania avenue, Nobles of Mystic Shrine parade.

<sup>7</sup> Boarding over sewer in roadway and in foot walks.

AUTOMATIC FLUSHING TANKS.

8-inch terra-cotta pipes.	6-inch terra-cotta pipes.	Flushing basin.	Cost of ma- terials.	Cost of labor.	Cost of work by plumber.	Cost of re- pairs to pavements.	Total cost.
3		1	<sup>1</sup> \$68.83	\$74.59	\$2.50	\$6.04	\$151.46
3		1	<sup>1</sup> 72.84	85.93	2.50	13.09	174.36
		1	46.78	75.57	6.12		128.47
	3	1	<sup>1</sup> 55.51	68.02	3.00		126.53
		1	<sup>1</sup> 58.30	81.19	4.75		144.24
6	3	5	301.76	385.30	18.87	19.13	725.06

<sup>1</sup> Includes \$3, cost of tapping water main.











*Comparative statement for years 1899 and 1900.*

Year.	New build-ings.	Repairs.	Dwellings.
1899.....	1,056	1,499	913
1900.....	892	1,520	650
Increase or decrease.....	164	21	263

## Valuation of building operations:

1899 ..... \$5,565,525.00  
1900 ..... 6,795,354.50

Increase..... 1,229,829.50

## Number of permits issued, including buildings, repairs and minor repairs, awnings, vaults, etc.:

1899 ..... 3,909  
1900 ..... 4,318

Increase ..... 409

Inspections made and applications disapproved ..... 52  
Inspections made, applications approved, and permits uncalled for ..... 54

The following summary will show the distribution of improvements in the different sections of the District, and the value of same:

	Buildings.	Repairs.
Northwest .....	\$3,029,500.00	\$705,834.00
County.....	1,894,536.00	81,603.00
Northeast .....	524,668.00	26,991.00
Southeast .....	276,185.00	29,158.00
Southwest.....	101,905.00	31,149.50
Total.....	5,826,794.00	874,325.50

## The following are the receipts of the office for the past year:

For building permits ..... \$3,194.00  
For awnings ..... 132.00  
For vaults ..... 4.00  
For boilers, engines, ovens, and furnaces..... 37.00  
Total ..... 3,367.00  
Received for year 1899..... 3,796.00  
Decrease..... 429.00

In addition to the permits above enumerated, miscellaneous permits were issued, for which no fees were obtained, consisting of rebuilding entrance porches and steps, temporary structures for the use of builders in connection with new construction, extra occupancy of public space for building materials, and excavations for buildings.

The report of the assistants, hereunto attached, shows that the inspections made were as follows:

Visits to new buildings ..... 6,729  
Visits to old buildings in course of alteration or repair..... 2,516  
Visits of a miscellaneous character ..... 3,446  
Total, 1900..... 12,691  
Total, 1899 ..... 12,369  
Increase ..... 322  
Condemnation of dangerous buildings or parts thereof—  
For 1900 ..... 616  
For 1899..... 120  
Increase ..... 496









There are several elevators now in use which have but one hoisting rope attached to the car, and as several opposite leads over small sheaves, which make the ropes deteriorate very much faster than would otherwise be the case, and if section 207 be adopted it would give the inspector power to condemn such hoists and compel the owners to increase the number of ropes or change the position of the machinery.

During the year there has been at least one serious accident, caused through the failure to securely close the elevator door, and in this connection I submit the last paragraph of section 207, with the view of giving the inspector of buildings the authority to use his own judgment in placing a safety lock on such elevators as he deems advisable.

Many of the plants in the city are so situated that different persons can and do operate these elevators, as in the case where this accident occurred. There are devices in the form of alarm safety locks, which if applied to the elevator doors in buildings occupied as a small hotel, such as this building is, would make such accidents practically impossible.

I have prepared a new form of certificate for your consideration, and recommend its adoption in lieu of the form heretofore in use, and if adopted, I would further recommend that the regulations governing elevators in the District of Columbia be printed on the back thereof.

Thanking you for the many courtesies shown me during the past year, and wishing for the success of your office, I am,

Very respectfully,

A. M. LAWSON, *Inspector of Elevators.*

Mr. JOHN B. BRADY,  
Inspector of Buildings, District of Columbia.

## OFFICE OF THE SUPERINTENDENT OF REPAIRS.

WASHINGTON, August 7, 1900.

**CAPTAIN:** I have the honor to submit the annual report of the repairs to municipal buildings for the fiscal year ending June 30, 1900.

Repairs to school buildings were as follows:

1	Hilton .....	189.84	Blake .....	336.10
	Maury .....	620.49	Hayes .....	1,168.50
	Wallach .....	376.72	Blair .....	139.61
	Brent .....	235.25	Madison .....	300.35
	Carbery .....	80.50	Pierce .....	173.00
	Lenox .....	329.50	Taylor .....	236.25
	Towers .....	538.50	Hamilton .....	355.80
	Peabody .....	559.40	Langdon .....	51.01
	Mc Cormack .....	156.00	Gales .....	739.00
	<b>Total</b> .....	<b>3,162.20</b>	<b>Total</b> .....	<b>4,235.71</b>











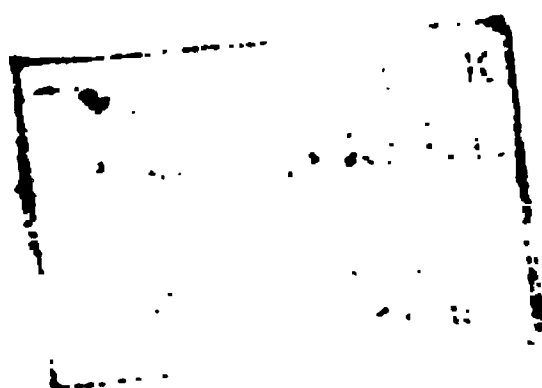










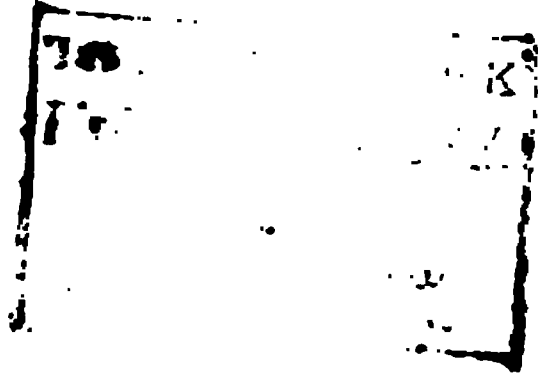




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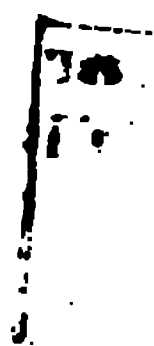
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0	.006
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.25	.02
.010	.002
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.022	
.032	.004
.058	.049
.01	.042
.018	.01
.005	.017
.032	
.002	.011



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	0	008
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11	024	
12	014	
21	042	
1	004	003
24	026	009
17	0	040
	001	13
30	042	
	0	033
11	126	069
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13	284	0
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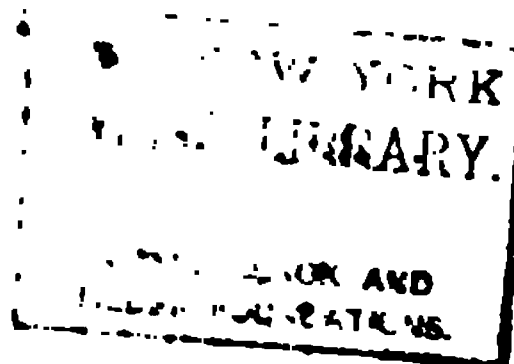




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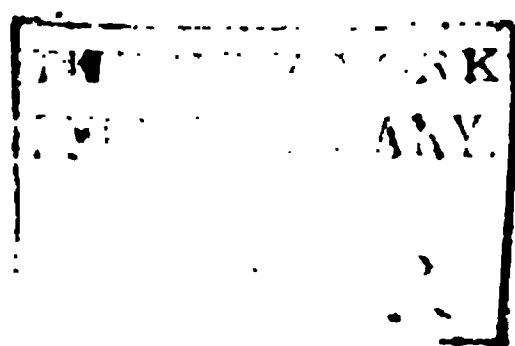


repairs.

date of laying.

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004		
05	0	* 1.4
02		
016	.03	.6
12	.02	.6
035	.022	.6
053	.006	.0
0	0	0
0	.007	0
007	0	.0
03	.044	.0
0	0	0
038	.025	.0
059	.002	
025	.007	
043		
0	.022	
024		
006	0	0
02	.034	
024	.015	.1
0	0	.0
028	.021	.0
07		
004	.056	.0
005	.033	0
001	.063	
068	.06	
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008	.026	.01
083	.067	.01
035	.015	.01
015	.05	.08



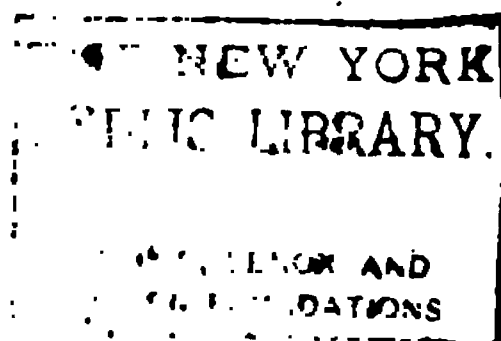


Cost of repairs per square

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These have been 1

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repairs per square yard

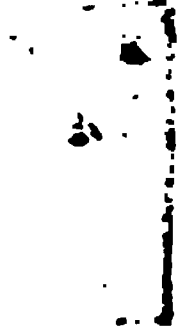
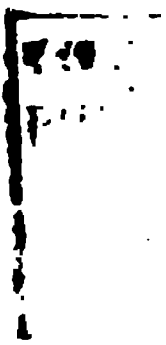
	13.	14.	
17	.06		
11	.048	.104	
01	.012	.019	
11	.02	.147	
3	+1.80		
15	*.206	*.215	
22	.036	*1.298	
02	.108		
22	.07	.038	
045	.02	*.135	
1			
26	.10		
11	.011	.066	
08	.014	.015	
86	0	0	
0	*.562	0	
25	0	0	
05	.046	.013	
27	.05		
09	.0033	0	
037	.019	0	
56	.022	.033	
	0	.003	
	0	0	
31	.072	.073	
07	.134	.024	
07	.012	.03	
3	.034	.039	
	0		
	0	0	
	0	0	
065	.008	.026	
	0		
029	0	.0035	
21	.001	.011	
006	.0007	0	
07	.028	.01	
63	.015	.1228	
	.0009	0	
1	0	.06	
8	.10		
06	.002	.008	
288	.059	.08	
71	0		

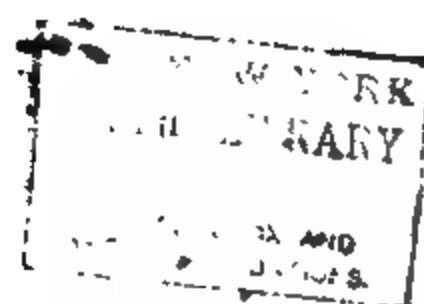
WORK  
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1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.









|                        |                                  |                          |           |      |           |                              |  |
|------------------------|----------------------------------|--------------------------|-----------|------|-----------|------------------------------|--|
| Missouri avenue.....   | Third.....                       | Four-and-a-half.....     | 2,561.58  | 1883 | 6,830.48  | .....do.....                 | Front of Baltimore and Ohio Rail-<br>road station. |
| New Jersey avenue..... | B.....                           | E.....                   | 8,775.80  | 1879 | 16,681.37 | McKnight & Burns.....        |  |
| New Jersey avenue..... | C.....                           | D.....                   | 1,177.12  | 1877 | 2,475.95  | George Neltzey.....          |  |
| Virginia avenue.....   | Ninth.....                       | Twelfth.....             | 2,836.07  | 1881 | 11,769.08 | Edwd. Lynch.....             |  |
| Florida avenue.....    | Seventh.....                     | Ninth.....               | 2,303.58  | 1874 | 8,082.53  | Thos. Kirby.....             |  |
| Stoughton.....         | West of Fourteenth.              |                          | 754.92    | 1889 | 5,825.70  | James Frawley.....           |  |
| Chapin.....            | West of Fourteenth.              |                          | 674.17    | 1889 | 5,662.58  | .....do.....                 |  |
| Canal.....             | C.....                           | E.....                   | 5,185.58  | 1891 | 17,547.45 | Andrew Gleeson.....          |  |
| Water.....             | Seventh.....                     | Twelfth.....             | 16,858.00 | 1872 | 52,259.80 | Neltzey & Acker.....         |  |
| Water.....             | N.....                           | O.....                   | 8,859.39  | 1876 | 11,757.86 | .....do.....                 |  |
| Water.....             | Twelfth.....                     | Thirteen-and-a-half..... | 8,110.28  | 1880 | 4,825.69  | F. M. Draney.....            | Second quality no bar.                             |
| Water.....             | M.....                           | Sixth.....               | 5,525.75  | 1884 | 16,845.97 | Hines & Cudmore.....         |  |
| Water (K).....         | Rock Creek.....                  | High.....                | 7,101.00  | 1873 | 24,853.50 | Birch & Fletcher.....        |  |
| Water (K).....         | High.....                        | Aqueduct Bridge.....     | 10,920.38 | 1875 | 38,221.33 | Geo. Neltzey.....            |  |
| Brightwood avenue..... | Grant.....                       | Irving.....              | 6,295.25  | 1889 | 26,683.50 | Andrew Gleeson.....          |  |
| Brightwood avenue..... | Florida avenue.....              | Pomeroy.....             | 788.06    | 1890 | 2,639.35  | W. H. Mohler.....            | East side.   |
| Brightwood avenue..... | Irving, northward.....           |                          | 2,749.40  | 1891 | 9,283.43  | Andrew Gleeson.....          |  |
| Brightwood avenue..... | Florida avenue.....              | Grant.....               | 5,221.91  | 1892 | 17,080.20 | .....do.....                 |  |
| Brightwood avenue..... | West side, Irving to Wallach.    |                          |           |      |           |                              |  |
| Brightwood avenue..... | Irving.....                      | North.....               | 2,377.48  | 1893 | 7,785.08  | Geo. Killeen.....            | Do.  |
| Nichols avenue.....    | Bridge.....                      | Maple avenue.....        | 2,990.15  | 1889 | 10,842.84 | Andrew Gleeson.....          |  |
| Nichols avenue.....    |                                  | Franklin.....            | 1,687.28  | 1891 | 6,806.20  | .....do.....                 |  |
| Nichols avenue.....    | Franklin.....                    | Sheridan.....            | 2,135.62  | 1891 | 6,880.22  | .....do.....                 |  |
| Bennings road.....     | 500 feet east of Fif-<br>teenth. | Eastward.....            | 5,971.49  | 1900 | .58       | Ayers Asphalt Paving Co..... |  |





s and avenues for year end

WEST SECTION.

| Straight<br>curb<br>reset. | Circular<br>curb<br>reset. | Straight<br>curb set. | Cost<br>Circular<br>curb set | Name of contractor.      |
|----------------------------|----------------------------|-----------------------|------------------------------|--------------------------|
| Feet.                      | Feet.                      | Feet.                 | Feet.                        |                          |
| 39.64                      |                            |                       | 820.55                       | Ayers Asphalt Paving Co. |
| 62.50                      | 9.45                       | 958.85                | 25,497.48                    | Do.                      |
| 1,165.53                   |                            | 385.85                | 417.85                       | Cranford Paving Co.      |
| 62.40                      |                            | 1,425.36              | 146.23                       | Ayers Asphalt Paving Co. |
| 180.40                     |                            | 2,487.11              | 204.96                       | Do.                      |
| 713.11                     |                            | 165.20                | 55,205.56                    | Cranford Paving Co.      |
|                            |                            |                       | 86.04                        | Do.                      |
| 351.64                     |                            | 37.75                 | 919.56                       | Do.                      |

WEST SECTION.

|          |       |        |           |                          |
|----------|-------|--------|-----------|--------------------------|
| 1,013.38 | 28.04 | 291.25 | 37,770.27 | Ayers Asphalt Paving Co. |
| 1,001.97 | 25.85 | 156.06 | 26,103.57 | Do.                      |
|          |       |        | 154.87    |                          |

EAST SECTION.

|        |       |          |           |                                       |
|--------|-------|----------|-----------|---------------------------------------|
| 60.91  |       | 1,404.16 | 887.91    | Washington Asphalt Block and Tile Co. |
| 91.40  |       | 884.03   | 851.15    | Do.                                   |
| 189.26 |       | 49.28    | 743.89    | Do.                                   |
|        |       | 1,800.63 | 885.60    | Do.                                   |
| 670.57 |       |          | 21,972.04 | Do.                                   |
|        |       | 1,355.92 | 933.23    | Do.                                   |
| 558.30 | 15.27 | 2,467.26 | 60,038.06 | Andrew Gleeson.                       |

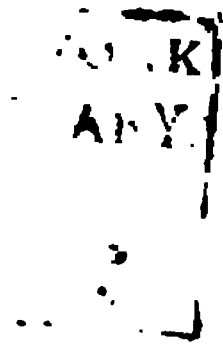
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EAST SECTION.

|          |  |          |        |                                       |
|----------|--|----------|--------|---------------------------------------|
| 1,740.41 |  | 566.25   | 411.75 | Washington Asphalt Block and Tile Co. |
| 329.73   |  | 1,446.38 | 577.54 | Ayers Asphalt Paving Co.              |
| 231.48   |  | 1,848.80 | 145.02 | Do.                                   |
|          |  | 1,431.71 | 882.22 | Cranford Paving Co.                   |

TOWN SECTION.

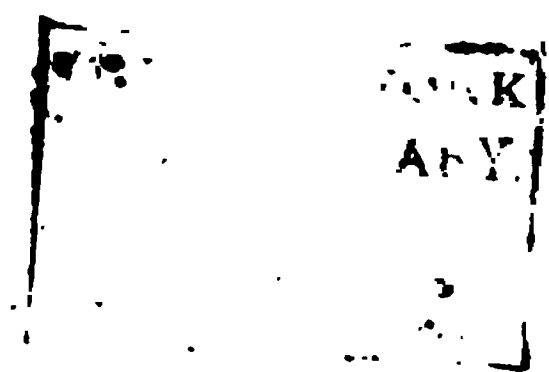
|       |       |          |           |                                       |
|-------|-------|----------|-----------|---------------------------------------|
| 71.55 |       | 579.54   | 169.43    | Washington Asphalt Block and Tile Co. |
|       |       | 699.88   | 51,720.90 | Cranford Paving Co.                   |
| 27.83 |       | 595.13   | 5,063.26  | Do.                                   |
| 81.53 | 27.65 | 1,337.25 | 31,517.71 | Washington Asphalt Block and Tile Co. |



nd suburban streets for year

|              |                      |                      |                    |                    | Name of contractor. |   |
|--------------|----------------------|----------------------|--------------------|--------------------|---------------------|---|
| Curbs moved. | Straight curb reset. | Circular curb reset. | Straight curb set. | Circular curb set. |                     |   |
| Lin. feet.   | Lin. feet.           | Lin. feet.           | Lin. feet.         | Lin. feet.         |                     |   |
| 306.00       | 312.25               |                      | 840.16             |                    | 62                  | Washington Asphalt Block and Tile Co.                       |
|              |                      |                      |                    |                    | 67                  | Day labor.  |
|              |                      |                      |                    |                    | 78                  | Ayers Asphalt Paving Co.                                    |
|              |                      |                      |                    |                    | 84                  | Do.   |
| 51.10        | 921.66               |                      |                    |                    | 72                  | Washington Asphalt Block and Tile Co.                       |
|              | 1,498.60             |                      | 16.50              |                    |                     |   |
|              |                      |                      |                    |                    | 65                  | Do.   |
|              | 84.90                |                      | 12.80              |                    | 41                  | Do.   |
|              | 1,421.75             |                      |                    |                    | 98                  | Andrew Gleeson.   |
|              |                      |                      |                    |                    | 80                  | M. F. Talty.  |
|              |                      |                      |                    |                    | 53                  | G. B. Mullen.   |
|              |                      |                      |                    |                    | 00                  | J. A. Blundon, \$625.76; M. McNamara, \$944.99.             |
|              |                      |                      |                    |                    | 49                  | E. G. Gummel.   |
|              |                      |                      |                    |                    | 00                  | Matthew Myers, \$2,704.43 from appropriation 1899.          |
|              |                      |                      |                    |                    | 06                  | Eastern Bermudez Paving Co., \$782 from appropriation 1899. |
|              |                      |                      |                    |                    | 67                  | Eastern Bermudez Paving Co.                                 |
|              |                      |                      |                    |                    | 55                  | Ayers Asphalt Paving Co.                                    |
|              | 1,303.00             |                      |                    |                    | 20                  |   |
|              |                      |                      |                    |                    | 81                  |   |
|              |                      |                      |                    |                    | 83                  | McGuire & Hall.   |
|              |                      |                      |                    |                    | 80                  | Cranford Paving Co.   |
|              | 952.00               |                      | 1,009.81           |                    |                     |   |
|              |                      |                      |                    |                    | 68                  | Washington Asphalt Block and Tile Co.                       |
|              |                      |                      |                    |                    |                     | Cranford Paving Co.   |

ing, \$980; includes \$2,626.27 paid from appropriation complete.





THE NEW YORK  
PUBLIC LIBRARY  
ASTOR, LENOX AND  
TILDEN FOUNDATION











| 2044 | 1002, 1004, 1006 B street SW<br>Alley between O and P, Thirty-<br>fourth and Thirty-fifth. | Jas. Frazier.             | 29.63  | 9.50   | 23.30 | 1.0 | 13 | 80    | 91.51    |
|------|--|---------------------------|--------|--------|-------|-----|----|-------|----------|
| 2045 | 1115 Eleventh street SE.   | W. T. Weaver              | 40.56  | 77.50  | 77.50 | 1.0 | 13 | 80    | 271.76   |
| 2046 | Northeast corner Eleventh and<br>F streets NE.   | R. A. Rollins.            |        | 7      | 7     |     | 94 | 2     | 26.48    |
| 2047 | 409 Fourth street NW   | A. McCandlish             |        | 27     | 27    |     |    |       | 21.48    |
| 2048 | 1213 F street NW   | C. A. Langley             |        |        |       |     |    |       | 4.78     |
| 2049 | Northeast corner Thirteenth<br>and K streets NW.   | Gasch Bros                | 46.80  | 15     | 28.60 |     |    |       | 49.28    |
| 2050 | North side E street NW., be-<br>tween Twenty-third and<br>Twenty-fourth.                   | W. C. Clephane            | 57.90  | 80.32  |       |     |    |       | 70.94    |
| 2051 | Rhode Island avenue NE., be-<br>tween Fifth and Sixth.                                     | Frank T. Rawlings         |        |        |       |     |    |       | 66.85    |
| 2052 | 7 and 9 Hanover place  | Daniel & Arnot            | 167.66 |        |       |     |    | 23    | 209.02   |
| 2053 | 1746, 1748 M street NW   | W. H. Saunders            | 25.54  | 51.63  |       |     |    |       | 74.92    |
| 2054 | 602 Pennsylvania avenue NW.  | W. H. Saunders            | 52.93  |        |       |     |    |       | 55.21    |
| 2057 | North side Cincinnati street,<br>from Adams Mill road to<br>property Capital Traction Co.  | P. Latterner              | 54.04  |        |       |     |    | 5,591 | 56.65    |
| 2058 | 1310 Massachusetts avenue<br>NW.   | E. J. Stellwagen          |        |        |       |     |    |       | 1,408.51 |
| 2059 | East side First SE., from Hick-<br>man to F.   | Robt. Hinkley             | 42.59  |        | 25.65 |     |    |       | 46.97    |
| 2060 | 631 B street NW  | Beck & Weller             | 289.09 |        |       |     |    |       | 292.33   |
| 2061 | 1622 S street NW   | G. H. Hammond &<br>Co.    |        |        | 18    | 43  |    | 15    | 79.85    |
| 2062 | Metropolitan Hotel, Sixth<br>street, between Pennsylv-<br>nia avenue and C.                | Mary E. K. Water-<br>man. | 25.22  |        |       |     |    |       | 25.42    |
| 2063 | Northwest corner Sixth and<br>D streets NW.  | H. Rozier Dulaney         | 525.63 |        |       |     |    |       | 594.64   |
| 2064 | 1832 Sixteenth street NW   | Wm. W. Stewart            | 89.09  | 11.25  | 53.85 |     |    |       | 106.04   |
| 2065 | Nineteenth and Kalorama<br>avenue, front lots 124-130,<br>Widow's Mite.                    | Jno. C. McLaughlin        | 32.14  |        | 29    |     |    |       | 36.97    |
| 2068 | 2131 R street NW   | John H. Nolan             |        | 153.25 |       |     |    | 20    | 130.12   |
| 2069 | Thirty-sixth, front of lots 7<br>and 8, block 9, Oak View.                                 | Chas. A. Langley          | 29.26  |        |       |     |    |       | 31.34    |
| 2070 | I street NW., between Fif-<br>teenth and Sixteenth, front<br>lot 6.                        | D. F. Weaver              |        | 10     |       |     |    | 210   | 129.22   |
| 2071 |  | Chas. E. Foster           | 67.94  |        |       |     |    |       | 68.48    |







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TABLE L.—Replacing and repairing sidewalks and curbs around public reservations and municipal buildings.

| No.  | Location.  | Cement sidewalk. | Curb set.  | Curb re-set. | Grading.   | Brick sidewalk repaved. | Cobble.    | Granite block. | Flag re-laid. | Asphalt tile sidewalk. | Cost.     |
|------|--|------------------|------------|--------------|------------|-------------------------|------------|----------------|---------------|------------------------|-----------|
|      |  | Sq. yards.       | Linear ft. | Linear ft.   | Cu. yards. | Sq. yards.              | Sq. yards. | Sq. yards.     | Linear ft.    | Sq. yards.             |           |
| 8003 | Pennsylvania avenue, between Eighteenth and Nineteenth streets (south side).....                             | 521.23           | 379.59     | .....        | .....      | .....                   | .....      | .....          | .....         | .....                  | \$826.90  |
| 8007 | T street NW., from Thirty-fifth street westward (north side).....  | 467.34           | 388.53     | 17.90        | .....      | .....                   | .....      | .....          | .....         | .....                  | 770.07    |
| 8008 | U street NW., from Thirty-fifth street westward.....   | 440.58           | 388        | 15.25        | 172        | .....                   | .....      | .....          | .....         | .....                  | 806.89    |
| 8018 | Indiana avenue, front of reservation; Indiana avenue NW., between Third and Fourth streets (north side)..... | 161.10           | 5          | 252.23       | .....      | .....                   | .....      | 24             | .....         | .....                  | 243.73    |
| 8019 | C street side of reservation, east of Second street (north side).....  | 146.49           | .....      | 105.80       | .....      | .....                   | .....      | 11½            | .....         | .....                  | 169.05    |
| 8020 | Reservation on Pennsylvania avenue SE., between Seventh and Eighth streets (south side).....                 | 55.17            | 8.07       | 100          | .....      | .....                   | .....      | .....          | .....         | .....                  | 75.27     |
| 8021 | Reservation on First street NW., between M and New York avenue (west side).....                              | 107.10           | .....      | .....        | .....      | .....                   | .....      | 2½             | .....         | .....                  | 105.82    |
| 8022 | B street SW., between Ninth and Tenth streets (north side).....  | 594.72           | 48.44      | 341.90       | .....      | .....                   | .....      | .....          | .....         | .....                  | 722.18    |
| 8033 | Reservation, bounded by Virginia and Georgia avenues, Ninth, and Eleventh streets SE.....                    | 600              | 1,635.08   | 120          | .....      | 395                     | 134        | 40             | 40            | .....                  | 2,161.43  |
| 8035 | Reservation bounded by F, K, and L streets SE.....   | .....            | 1,025      | 54.08        | .....      | .....                   | .....      | .....          | .....         | .....                  | 906.23    |
| 8063 | Lafayette square.....  | 4,606.73         | 2,400.90   | .....        | .....      | .....                   | .....      | .....          | .....         | .....                  | 7,287.35  |
| 8064 | Johnson School, corner Grant and School streets.....   | .....            | 298        | .....        | 252        | .....                   | 10         | .....          | 52            | 302                    | 7,741.14  |
| 8081 | Seventeenth and B streets, abutting Washington Monument Park.....  | .....            | .....      | .....        | .....      | .....                   | .....      | .....          | .....         | .....                  | 381.07    |
|      | Total.....   | 7,700.46         | 6,576.61   | 1,007.16     | 424        | 895                     | 144        | 78             | 92            | 302                    | 15,197.18 |



12-1-1914









TABLE N.—Whole-cost work.

| No.  | Location.   | For whom done.             | Grad-<br>ing. | Cement<br>side-<br>walk<br>laid. | Curb<br>reset. | Con-<br>crete<br>base. | As-<br>phalt<br>block. | Brick<br>side-<br>walk<br>relaid. | Granite<br>block<br>road-<br>way. | Cobble-<br>stone. | Cobble<br>gutters. | Curb<br>set. | Asphalt<br>tile<br>side-<br>walk. | Cost.   |
|------|---|----------------------------|---------------|----------------------------------|----------------|------------------------|------------------------|-----------------------------------|-----------------------------------|-------------------|--------------------|--------------|-----------------------------------|---------|
| 5001 | 53 I street NE .....  | W. H. Marlow .....         | Cu. yds.      | Sq. yds.                         | Lin. ft.       | Cu. yds.               | Sq. yds.               | Sq. yds.                          | Sq. yds.                          | Sq. yds.          | Sq. yds.           | Lin. ft.     | Sq. yds.                          | \$20.67 |
| 5002 | Indiana avenue NW., westside Second<br>street.                        | Metropolitan Rwy. Co. .... | .....         | 21.09<br>22                      | .....          | .....                  | .....                  | .....                             | .....                             | .....             | .....              | .....        | .....                             | 21.56   |
| 5003 | Alley, rear 316 Pennsylvania avenue...                                | Browning & Baines .....    | 14            | .....                            | .....          | 16                     | .....                  | .....                             | .....                             | .....             | .....              | .....        | .....                             | 7.93    |
| 5004 | Kalorama avenue, between Eighteenth<br>street and Columbia road.      | E. C. Kellogg.....         | .....         | .....                            | .....          | .....                  | .....                  | .....                             | .....                             | .....             | .....              | .....        | .....                             | 19.00   |
| 5005 | Southwest corner Seventh and I streets<br>NW.                         | Benjamin J. Bradford ..... | .....         | 135.42                           | .....          | .....                  | .....                  | .....                             | .....                             | .....             | .....              | .....        | .....                             | 130.00  |
| 5006 | 125-129 First street SW .....   | Boston Baking Co. ....     | 25            | .....                            | .....          | .....                  | 85                     | .....                             | .....                             | .....             | .....              | .....        | .....                             | 154.65  |
| 5008 | 1545 Sixth street NW .....  | W. O. Shreve.....          | .....         | .....                            | .....          | .....                  | .....                  | .....                             | .....                             | .....             | .....              | .....        | .....                             | 27.47   |
| 5009 | E street NE., between Fourth and Fifth<br>streets.                    | Harry Williams, manager .. | 14            | .....                            | 80             | .....                  | .....                  | 15                                | 39                                | 2                 | .....              | .....        | .....                             | 60.73   |
| 5010 | Seventeenth street, between Grant and<br>Lowell streets (both sides). | S. C. Briggs .....         | .....         | .....                            | .....          | .....                  | .....                  | .....                             | .....                             | .....             | 271.8              | .....        | .....                             | 100.49  |
| 5011 | First street, between B and C streets<br>NW. (west side).             | Ed. McCauley .....         | 6             | .....                            | 5              | .....                  | 20                     | .....                             | .....                             | .....             | .....              | 4.71         | 3                                 | 55.04   |
| 5012 | S street NW., between Phelps place and<br>Twenty-fourth street.       | Davidson & Davidson .....  | .....         | .....                            | .....          | .....                  | .....                  | .....                             | .....                             | .....             | .....              | .....        | .....                             | 140.00  |
|      | Total.....  | .....                      | 464           | 178.51                           | 85             | 16                     | 105                    | 15                                | 89                                | 2                 | 271.8              | 4.71         | 3                                 | 787.54  |





Expenditures for repairing county roads and suburban streets—Continued.

SUMMARY.

|   |             |
|---|-------------|
| entral section.....                                     | \$38,763.10 |
| stern section.....                                      | 5,658.50    |
| stern section .....                                     | 4,137.60    |
| re of horse and buggy .....                             | 328.00      |
| laries, surface division .....                          | 2,328.00    |
| laries, property division.....                          | 465.00      |
| acksmithing.....  | 479.17      |
| el, purchase of tools, and miscellaneous labor .....    | 2,485.09    |
| rchase of trap rock, macadam, and freight on same ..... | 15,966.78   |
|   | 70,511.19   |
| ount of appropriation.....                              | \$60,000.00 |
| ount of repayments.....                                 | 10,520.00   |
|   | 70,520.00   |
| Balance of appropriation.....                           | 8.81        |

st of employees, surface division, temporarily required, and appropriations from which paid, for year ended June 30, 1900.

| Class.                 | Number. | Assess-<br>ment<br>and per-<br>mit work. | Improve-<br>ments<br>and re-<br>pairs. | Repairs<br>to streets,<br>etc. | Side-<br>walks<br>and curbs<br>around<br>public<br>reserva-<br>tions. | Repairs<br>to county<br>roads. | Con-<br>structing<br>county<br>roads. | Bridges.   |
|------------------------|---------|--|--|--------------------------------|---|--------------------------------|---------------------------------------|------------|
| istant engineers ..... | 4       | \$1,004.57                               | \$1,130.14                             | \$1,506.85                     | \$94.18   | \$408.10                       | \$879.00                              | \$1,255.71 |
| inspectors .....       | 20      | 2,055.72                                 | 4,062.56                               | 4,383.08                       | 110.25  | 299.11                         | 1,984.38                              | 1,010.15   |
| oremen.....            | 24      | 3,128.18                                 | 301.00                                 | 1,844.06                       | 140.20  | 4,556.50                       | 720.00                                | 1,224.00   |
| ther employees.....    | 962     | 30,702.05                                | 14,167.03                              | 20,315.55                      | 2,424.45  | 45,459.10                      | 15,850.75                             | 17,898.50  |
| Total.....             |         | 36,890.52                                | 19,660.78                              | 28,049.54                      | 2,769.08  | 50,722.81                      | 19,434.13                             | 21,388.36  |

| Class.                   | Repairs<br>to market<br>houses. | Western<br>High<br>School,<br>1898. | Various de-<br>posits. | Nineteenth<br>street, from<br>Florida<br>avenue to<br>Columbia<br>road. | Isolating<br>building,<br>Provi-<br>dence<br>Hospital. | High<br>water<br>service. | Care and<br>improve-<br>ment<br>Rock<br>Creek<br>Park. |
|--------------------------|---------------------------------|-------------------------------------|------------------------|---|--|---------------------------|--|
| Assistant engineers..... |                                 |                                     |                        |   |  |                           |  |
| Inspectors .....         | \$4.00                          | \$16.00                             | \$2,760.00             | \$308.00  | \$180.00   |                           |  |
| Foremen .....            | 14.00                           | 102.00                              | 28.00                  |   |  | \$42.06                   | \$1,402.00   |
| Other employees .....    | 64.87                           | 1,266.84                            | 344.24                 |   |  | 404.38                    | 15,352.99  |
| Total .....              | 82.87                           | 1,384.84                            | 3,132.24               | 308.00  | 180.00   | 446.44                    | 16,751.99  |

| Class.                    | Indus-<br>trial<br>Home<br>School. | Roadway<br>across<br>Rock<br>Creek<br>Park. | Emer-<br>gency<br>fund. | Emer-<br>gency re-<br>pairs to<br>roads and<br>bridges. | Deposit<br>and assess-<br>ment fund. | Grading<br>streets, al-<br>leys, and<br>roads (team-<br>hire). | Total.     |
|---------------------------|------------------------------------|---|-------------------------|---|--------------------------------------|--|------------|
| Assistant engineers ..... |                                    |   |                         |   |                                      |  | \$6,278.55 |
| Inspectors .....          |                                    |   |                         |   |                                      |  | 17,173.25  |
| Foremen .....             | \$14.00                            | \$210.00                                    | \$14.00                 | \$280.00  | \$2,808.00                           |  | 16,828.00  |
| Other employees .....     | 75.87                              | 2,348.00                                    | 45.30                   | 4,263.78  | 21,272.28                            | \$5,213.16   | 197,402.14 |
| Total .....               | 89.87                              | 2,558.00                                    | 59.30                   | 4,483.78  | 24,080.28                            | 5,213.16   | 237,688.94 |

















hundred and seventy-eight reports of damaged trees were received from the city police department (in addition to those of the storm of August 2) and were remedied as far as possible. The report is fully submitted.

TRUEMAN LANHAM,  
Superintendent of Parking.

FRANKING H. BEACH,  
Major of Engineers, U. S. A.,  
Engineer Commissioner District of Columbia.  
(formerly Captain Newcomer.)

REPORT OF THE INSPECTOR OF ASPHALT AND CEMENTS.

WASHINGTON, September 11, 1900.

The work of testing done in this office during the fiscal year ending June 30 is summarized as follows:

Testing.

|                                  |       |       |
|----------------------------------|-------|-------|
| Cements:                         |       |       |
| Domestic, brands 5, samples..... | 8,870 |       |
| Foreign, brands 15, samples..... | 5,200 |       |
|                                  |       | 8,570 |
| Crude, 6 cargoes, samples.....   | 41    |       |
| Refined, samples.....            | 6     |       |
| Leak, refined, samples.....      | 1     |       |
| Hydraulic cements, samples.....  | 183   |       |
| Mineral oils.....                | 41    |       |
| Asphalt mixtures.....            | 145   |       |
| Bituminous asphalts.....         | 8     |       |
|                                  |       | 870   |
|                                  | 19    |       |
|                                  | 2     |       |
|                                  | 3     |       |
|                                  | 18    |       |
|                                  | 204   |       |
|                                  | 8     |       |
|                                  | 8     |       |
| Other, experiments, etc.....     | 80    |       |
|                                  |       | 282   |
|                                  |       | 9,222 |

HYDRAULIC CEMENTS.

Number of barrels inspected and the average results of tests of each brand of cement will be found in the following tables:

Cements.—The 3,370 samples represent 51,431 barrels, of which 2,981 were

Natural cements.

| d.           | Num-ber of barrels. | Num-ber of sam-ples. | Per cent residue 100-mesh sieve. | Initial set (min-utes). | Per cent water used. |               | Tem-perature of air and water. | Tensile strength. |         |                       |
|--------------|---------------------|----------------------|----------------------------------|-------------------------|----------------------|---------------|--------------------------------|-------------------|---------|-----------------------|
|              |                     |                      |                                  |                         | Neat ce-ment.        | 2 parts sand. |                                | Neat cement.      |         | 2 parts sand, 7 days. |
|              |                     |                      |                                  |                         |                      |               |                                | 1 day.            | 7 days. |                       |
| 1.....       | 16,840              | 1,100                | 17.8                             | 21.6                    | 82.5                 | 14.7          | 77.6                           | 129.7             | 224.8   | 189.0                 |
| 1 and .....  | 600                 | 80                   | 16.0                             | 21.0                    | 80.0                 | 14.0          | 70.0                           | 165.0             | 286.5   | 189.0                 |
| d Val- ..... | 3,350               | 800                  | 18.7                             | 28.4                    | 82.0                 | 14.0          | 76.2                           | 100.2             | 170.0   | 114.7                 |
| .....        | 21,024              | 1,830                | 17.6                             | 21.0                    | 29.5                 | 13.5          | 77.8                           | 79.6              | 156.4   | 87.1                  |
| .....        | 9,617               | 610                  | 15.6                             | 16.0                    | 81.8                 | 14.8          | 77.1                           | 124.4             | 211.3   | 188.3                 |





























134 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

*Special extensions authorized and proposed.*

<sup>1</sup> No estimate for Decatur.

Respectfully submitted.

WM. P. RICHARDS,  
*Assistant Engineer, District of Columbia.*

Capt. LANSING H. BEACH,  
*Corps of Engineers, U. S. A.,  
Engineer Commissioner District of Columbia.*

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REPORT OF THE SUPERINTENDENT OF PROPERTY.

WASHINGTON, D. C., August 8, 1900.

CAPTAIN: I have the honor to forward herewith statement showing materials and supplies purchased on account of the appropriations for the fiscal year ending June 30, 1900; also list of employees, and salaries paid to each.

Deliveries under the contracts for furnishing curbing, sewer pipe, vitrified paving blocks, and natural cements are still in course of execution. The reports as to these items are therefore incomplete.

Very respectfully,

R. D. SMITH,  
*Superintendent of Property.*

Capt. LANSING H. BEACH,  
*Corps of Engineers, U. S. A.,  
Engineer Commissioner District of Columbia.*

Miscellaneous purchases made from 1900 appropriations.

|  |           |  |            |
|--|-----------|--|------------|
| Awning, purchased and repaired .....                 | \$97.30   | Plumbers' supplies.....                            | \$6,771.69 |
| Books, made to order.....                            | 761.55    | Periodicals and publications .....                 | 84.00      |
| Blank forms, printing and binding ....               | 2,194.88  | Photographic apparatus and material..              | 59.75      |
| Boots, rubber.....                                   | 136.10    | Pitch.....   | 8,911.23   |
| Bicycle repairs .....                                | 132.44    | Plows, and repairs to.....                         | 607.40     |
| Bridge material, iron and steel structural .....     | 118.09    | Paints, glass, and oils .....                      | 3,578.59   |
| Badges, and repairs to.....                          | 20.00     | Surveyors' instruments, and repairs to..           | 937.23     |
| Blue prints.....                                     | 314.55    | Stationery.....                                    | 1,528.91   |
| Broken stone, flagging, etc.....                     | 341.61    | Saddlery.....                                      | 1,156.34   |
| Castings, special (including water department) ..... | 2,114.13  | Rent, District of Columbia property yards.....     | 300.00     |
| Cement, asphalt.....                                 | 196.40    | Rent, warehouses.....                              | 405.00     |
| Cement, plumbers' and slaters' .....                 | 44.15     | Repairs:   |            |
| Drugs and chemical apparatus.....                    | 635.92    | D. C. building.....                                | \$216.08   |
| Dry goods .....                                      | 26.51     | D. C. nursery .....                                | 7.00       |
| Drafting instruments and materials....               | 276.99    | D. C. cement house.....                            | 34.50      |
| Electrical supplies.....                             | 673.72    |  | 257.58     |
| Forage .....   | 4,932.40  | Steam roller, repairs .....                        | 306.25     |
| Fertilizer.....                                      | 65.70     | Stone crusher, repairs .....                       | 209.80     |
| Furniture, and repairs to.....                       | 1,227.14  | Seeds.....   | 91.25      |
| Fuel.....  | 5,978.04  | Tinware.....                                       | 1,944.20   |
| Groceries.....                                       | 36.63     | Typewriters, and repairs to.....                   | 476.75     |
| Hardware .....                                       | 4,660.44  | Tools, and repairs to .....                        | 2,778.31   |
| Hose and couplings .....                             | 1,280.39  | Tickets, street-car .....                          | 211.00     |
| Hoists and derricks .....                            | 234.40    | Valves and casings (water department)              | 6,162.50   |
| Horses.....  | 525.00    | Wheel scraper.....                                 | 275.72     |
| Ice .....  | 51.11     | Water barrels, and repairs to.....                 | 57.50      |
| Lead, Omaha pig.....                                 | 8,124.02  | Wagons, carts, and buggies, and repairs            | 4,018.27   |
| Lumber .....   | 10,133.74 | Pay roll District of Columbia blacksmith shop..... | 1,518.35   |
| Mortar, lime, and hair.....                          | 185.25    |  |            |
| Maps, and repairs to.....                            | 168.00    | Total .....  | 83,794.23  |
| Oils, illuminating and engine.....                   | 460.51    |  |            |

Material purchased and issued from property yards.

| Material.   | Quantities. | Values.    |
|---|-------------|------------|
| Terra-cotta sewer pipe, branches, bends, and reducers:          |             |            |
| 24-inch sewer pipe .....  | 4,178       | \$2,714.65 |
| 21-inch sewer pipe.....   | 8,285       | 4,816.70   |
| 18-inch sewer pipe.....   | 10,602      | 3,589.71   |
| 15-inch sewer pipe.....   | 6,941       | 1,706.43   |
| 12-inch sewer pipe.....   | 30,847      | 5,122.98   |
| 10-inch sewer pipe.....   | 9,060       | 1,365.42   |
| 8-inch sewer pipe.....  | 1,518       | 141.52     |
| 6-inch sewer pipe.....  | 6,834       | 512.79     |
| 8-inch to 6-inch reducers .....                                 | 25          | 9.50       |
| Vitrified sewer invert blocks .....                             | 3,239       | 1,101.09   |
| Vitrified sewer invert bricks .....                             | 590,610     | 10,483.33  |
| Vitrified taper section sewer bricks .....                      | 9,940       | 233.59     |
| Repressed vitrified paving blocks .....                         | 1,452,197   | 29,043.94  |
| Repressed vitrified paving half-blocks .....                    | 41,597      | 415.97     |
| Hand-made bricks.....   | 600         | 9.70       |
| Asphalt paving blocks.....                                      | 506,395     | 29,166.84  |
| Red sewer bricks .....  | 851,775     | 8,113.24   |
| Arch bricks.....  | 1,800       | 15.30      |
| Sidewalk paving bricks .....                                    | 96,400      | 868.17     |
| Red building bricks.....  | 156,599     | 1,434.94   |
| Fire bricks .....   | 5,050       | 143.50     |
| Siphons.....  | 12          | 331.00     |
| Portland cement.....  | 23,263      | 54,416.25  |
| Natural cement .....  | 30,083      | 21,484.17  |
| Paving and concrete sand .....                                  | 8,755       | 4,377.24   |
| Screened sand.....  | 408         | 230.09     |
| Screened pebbles.....   | 6,100       | 4,574.53   |
| Castings.....   |             | 3,001.33   |
| Water boxes .....   | 755         | 409.00     |
| Curbing.....  | 46,682      | 29,305.93  |
| Broken stone.....   | 22,915      | 18,595.02  |
| Freight.....  |             | 11,093.84  |
| Hauling.....  |             | 6,620.15   |
| Pay roll (office work, inspection, and handling material) ..... |             | 12,434.80  |
| Total.....  |             | 267,885.66 |



employees other than those on per annum roll, and amounts paid to each—Cont'd.

| Name.           | Rate.              | Assessment and permit work. |          | Pump-<br>ing ex-<br>penses<br>and<br>pipe<br>distrib-<br>ution. | North<br>wing<br>of<br>almshouse. | Male<br>work-<br>house. | Girls'<br>reform<br>school. | Repairs<br>to<br>county<br>roads. | Total.    |
|-----------------|--------------------|-----------------------------|----------|---|-----------------------------------|-------------------------|-----------------------------|-----------------------------------|-----------|
|                 |                    | Streets.                    | Sewers.  |   |                                   |                         |                             |                                   |           |
| Biscan.....     | { \$5.00<br>6.00 } | \$65.00                     | \$143.00 | .....   | .....                             | .....                   | .....                       | .....                             | \$292.00  |
| Brams.....      | 5.00               | 190.00                      | .....    | \$65.00   | .....                             | .....                   | .....                       | \$70.00                           | 1,275.00  |
| Bremaker.....   | 4.00               | 204.00                      | 104.00   | 52.00   | .....                             | .....                   | .....                       | 56.00                             | 1,252.00  |
| Bencer.....     | 4.00               | 204.00                      | 104.00   | 52.00   | .....                             | .....                   | .....                       | 56.00                             | 1,252.00  |
| Dannel.....     | 4.00               | 204.00                      | 104.00   | 52.00   | .....                             | .....                   | .....                       | 56.00                             | 1,252.00  |
| Dgar.....       | 3.50               | 133.00                      | 45.50    | 45.50   | .....                             | .....                   | .....                       | 49.00                             | 1,004.50  |
| nder Las.....   | 2.50               | 65.00                       | .....    | .....   | .....                             | .....                   | .....                       | 32.50                             | 285.00    |
| Morris.....     | 2.50               | 127.50                      | 65.00    | 82.50   | \$7.00                            | \$20.50                 | .....                       | 35.00                             | 782.50    |
| Donaldson.....  | 4.00               | 204.00                      | 104.00   | .....   | .....                             | .....                   | .....                       | 56.00                             | 1,252.00  |
| ickinson.....   | 3.25               | 165.75                      | 84.50    | .....   | .....                             | .....                   | .....                       | .....                             | 1,017.25  |
| Grey.....       | 3.00               | 153.00                      | 78.00    | .....   | .....                             | .....                   | .....                       | .....                             | 937.50    |
| oss.....        | 3.00               | 153.00                      | 78.00    | .....   | .....                             | .....                   | .....                       | .....                             | 939.00    |
| ammer.....      | 2.00               | 52.00                       | .....    | .....   | .....                             | .....                   | \$12.00                     | 27.00                             | 293.00    |
| r Mitchell..... | 2.00               | .....                       | .....    | .....   | .....                             | .....                   | .....                       | .....                             | 18.00     |
| opley.....      | 2.00               | .....                       | .....    | .....   | .....                             | .....                   | .....                       | .....                             | 45.00     |
| s.....          | { 1.50<br>1.75 }   | 100.75                      | 24.00    | 1.00  | .....                             | 4.50                    | .....                       | 27.49                             | 538.05    |
| otal.....       | .....              | 2,021.00                    | 934.00   | 300.00  | 7.00                              | 25.00                   | 12.00                       | 464.99                            | 12,434.80 |

SUMMARY.

|   |             |
|---|-------------|
| l purchased but not stored in property yards.....       | \$83,794.23 |
| l purchased and issued from property yards.....         | 267,885.66  |
| s (office work, inspection, and handling material)..... | 12,434.80   |
| , blacksmith shop.....                                  | 1,518.35    |
| and total.....  | 365,633.04  |

REPORT OF THE PERMIT CLERK.

WASHINGTON, July 30, 1900.

|  |       |
|--|-------|
| MAIN: Permits issued during the fiscal year ended June 30, 1900, were: |       |
| connections.....   | 1,175 |
| repairs.....   | 916   |
| specials.....  | 395   |
|  | 2,486 |
| connections.....   | 1,374 |
| repairs.....   | 1,054 |
| specials.....  | 815   |
|  | 3,243 |
| id electric light connections.....                                     | 1,064 |
| id electric light repairs.....   | 216   |
| id electric light specials.....  | 4     |
|  | 1,284 |
| s mains.....   | 85    |
| d and repair electric-light conduits.....                              | 104   |
| and replace telegraph and telephone poles.....                         | 176   |
| railings to inclose parkings.....                                      | 349   |
| natic bicycle pumps, erect.....  | 55    |
| et railroad conduits with sewers.....                                  | 148   |
| it, extend and replace telephone.....                                  | 3     |
| its, lower under railroad tracks.....                                  | 9     |
| its, connect with sewer.....   | 26    |
| s, connect underground, to rails of track.....                         | 7     |
| s, repair and replace telegraph.....                                   | 8     |
| pipe, lay under sidewalk.....  | 4     |
| vations, make in the public space.....                                 | 5     |
| ers, erect in alleys.....  | 4     |

# 138 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

|   |     |
|---|-----|
| Gas mains, repair, Pintsch .....                                    | 2   |
| Hitching posts, erect .....   | 8   |
| Pipe, replace suction .....   | 1   |
| Walls, cement .....   | 13  |
| Alleys, close temporarily .....                                     | 1   |
| Alleys, grade and excavate in .....                                 | 3   |
| Alleys, locate well digger in .....                                 | 3   |
| Alleys, replace cobble with granite-block paving .....              | 1   |
| Alleys, place ashes in .....  | 1   |
| Area, build steps to .....  | 1   |
| Area, pave and repair pavement in .....                             | 10  |
| Awning frames, wire, for electric lights .....                      | 7   |
| Bridges, haul loads of 5 tons or more over .....                    | 6   |
| Bridges, repair floor of .....                                      | 1   |
| Bridges, place trolley wires over draw .....                        | 1   |
| Bridges, place trough for trolley wire on .....                     | 1   |
| Bicycle runway, build in parking to basement .....                  | 1   |
| Cables, suspend aerial, and feeder .....                            | 15  |
| Car, move over street .....   | 1   |
| Cellar door, remove temporarily .....                               | 1   |
| Copings, erect and repair .....                                     | 60  |
| Cellar door, remove and fill space .....                            | 1   |
| Curb, reset .....   | 1   |
| Conduit, lay under sidewalk at new truck house .....                | 2   |
| Conduit, repair and change line of .....                            | 2   |
| Conduit, extend .....   | 1   |
| Driveways, construct and repair .....                               | 24  |
| Excavations, make to ascertain character for foundation .....       | 1   |
| Engines, move steam traction over streets and roads .....           | 15  |
| Engines, operate in alleys .....                                    | 2   |
| Electric decorations, hang over sidewalks .....                     | 2   |
| Fences, erect without fee .....                                     | 24  |
| Fences, repair, renew, or replace .....                             | 517 |
| Fences, erect wire screen on .....                                  | 1   |
| Fire hydrants, use .....  | 4   |
| Flagging, place in tree space .....                                 | 1   |
| Furnace, use portable on streets to weld track joints .....         | 1   |
| Frame, erect for displaying election returns .....                  | 1   |
| Gutter, place pipe in .....   | 2   |
| Gutter, lay cobble .....  | 2   |
| Gutter, make across sidewalk .....                                  | 1   |
| Gutter, clean .....   | 1   |
| Gas stopcock boxes, regulate to grade .....                         | 4   |
| Gravel, place in public space for use of District of Columbia ..... | 2   |
| Hand rail, erect on terrace steps .....                             | 1   |
| Hitching rope, sidewalks .....                                      | 57  |
| Hitching post, replace .....  | 1   |
| Hedges, plant back of sidewalk .....                                | 2   |
| Lamps, hang electric .....  | 39  |
| Lanterns, swing from tree .....                                     | 1   |
| Lights, place in box sign .....                                     | 2   |
| Manhole top, replace to grade .....                                 | 1   |
| Manholes, build on railroad ducts .....                             | 5   |
| Material, take from streets not graded .....                        | 19  |
| Material, remove from streets (granite blocks and ashes) .....      | 3   |
| Material, place in streets (broken bricks) .....                    | 3   |
| Manure pit, repair hinges to door of .....                          | 1   |
| Overhead wires, connect to cable .....                              | 1   |
| Overhead wires, make house connections with .....                   | 67  |
| Overhead wires, string .....  | 89  |
| Overhead wires, replace iron with copper .....                      | 27  |
| Overhead wires, increase size of .....                              | 4   |
| Overhead wires, transfer and change location of .....               | 16  |
| Overhead wires, renew .....   | 8   |
| Overhead wires, replace by underground (railroad) .....             | 2   |
| Overhead wires, make necessary repairs .....                        | 127 |
| Parking leads, lay .....  | 360 |
| Parking leads, relay and repair .....                               | 180 |

|  |     |
|--|-----|
| space, deposit material on .....                                     | 4   |
| place timber guard on.....   | 2   |
| pave over.....   | 45  |
| store paving blocks on .....   | 3   |
| pavement, reduce .....   | 1   |
| pavement, remove .....   | 4   |
| pavement, repair.....  | 8   |
| pavement, replace brick with cement.....                             | 6   |
| , grade .....  | 79  |
| ect guy for trolley.....   | 1   |
| ect and replace trolley.....   | 3   |
| et railroad trolley .....  | 7   |
| t, repair in alley .....   | 5   |
| , replace in parking with cement.....                                | 3   |
| , replace with arch in sidewalk .....                                | 1   |
| ect for street lighting .....  | 1   |
| s, grade and repair.....   | 21  |
| s, remove sample of paving.....                                      | 2   |
| s, place ashes in. ....  | 1   |
| s, sprinkle .....  | 3   |
| s, lay and repair .....  | 107 |
| space, grade .....   | 1   |
| s, occupy for business purposes.....                                 | 100 |
| parkings, erect, replace, and repair.....                            | 154 |
| isposal plant, maintain Waring system .....                          | 1   |
| lose during progress of work.....                                    | 6   |
| onnect foundation of with sewer .....                                | 1   |
| s, drill in sidewalk .....   | 1   |
| s, remove from sidewalk .....  | 1   |
| es, paint .....  | 2   |
| re, pave .....   | 8   |
| ant magnolia in parking .....  | 1   |
| move.....  | 18  |
| m.....   | 2   |
| nitewash ... ..  | 50  |
| se, move through street.....   | 1   |
| ment over .....  | 1   |
| ild and repair retaining, on parking.....                            | 19  |
| bles, lay.....   | 55  |
| Sunday.....  | 1   |
| , place chairs on .....  | 1   |
| , change to bridge over Chesapeake and Ohio Canal at Potomac street. | 1   |

RAILROAD COMPANIES.

|   |   |
|---|---|
| a and Potomac River:  |   |
| truct underground system .....  | 1 |
| cars in the street .....  | 2 |
| ivate to ascertain depth to sewer .....   | 1 |
| l manhole and duct Fifth and D streets NW .....                                   | 1 |
| portable furnace on street for cast welding rails.....                            | 1 |
| duct (8-way), New York avenue and Eleventh street NW.....                         | 1 |
| ron poles on Eleventh street SE.....  | 1 |
| l manhole and 4-way duct, Four-and-a-half street and Maryland<br>venue SW .....   | 1 |
| ect tracks, Water and Seventh streets SW., with P. E. P., conduit ...             | 1 |
| oil on streets to thaw switches and slots .....                                   | 1 |
| g Feeder cables (2,500,000 centimeters) on Anacostia Bridge .....                 | 1 |
| ge track centers .....  | 1 |
| e wires over Anacostia Bridge draw.....   | 1 |
| nd underground system (Fourth street, etc.) .....                                 | 1 |
| n connecting curves, Brightwood, north of Florida avenue .....                    | 1 |
| n connecting curves, Eleventh and F and Eleventh and G streets<br>V .....         | 2 |
| n connecting curves, Fourth street and New York avenue.....                       | 1 |
| ect shelter station, Eleventh street SE., with overhead wires .....               | 1 |
| l manhole and duct, Fourth street and New York avenue .....                       | 1 |
| e pins between tracks to haul in cables, Fifth street and New York<br>venue ..... | 1 |







REPORT OF THE CHIEF CLERK.

WASHINGTON, August 1, 1900.

CAPTAIN: I have the honor to submit the following report for the fiscal year ended June 30, 1900:

|   |        |
|---|--------|
| Communications received, briefed, and recorded .....      | 11,872 |
| Indorsements, references, and reports thereon.....        | 59,360 |
| Letters and orders prepared.....                          | 4,896  |
| Copies of contracts drawn.....                            | 440    |
| Vouchers and bills prepared, recorded, and forwarded..... | 5,732  |

Schedules of bids received during the fiscal year for work and materials under engineer office, and statement of contracts for street improvements, sewers, construction materials, and miscellaneous work are herewith.

Very respectfully,

A. Y. LAKENAN,  
Chief Clerk, Engineer Department.

Capt. LANSING H. BEACH,  
Corps of Engineers, U. S. A.,  
Engineer Commissioner District of Columbia.

Schedule of proposals for grading certain streets and avenues, opened July 8, 1899.

| Bidders.             | Michigan avenue. | Albermarle street. | Kennesaw avenue and Park road. | Twenty-second and Twenty-fourth streets, Langdon. |
|----------------------|------------------|--------------------|--------------------------------|---|
| Geo. B. Mullen ..... | 26               | 23                 | 32                             | 36  |
| E. G. Gummel .....   | 28               | 28                 | 29                             | 39  |
| M. F. Talty .....    | 23               | 27                 | 31                             | 38  |
| Andrew Gleeson ..... | 30               | 28                 | 40                             | 35  |
| Lyons Bros.....      | 26               | 27                 | 31                             | 40  |
| James Frawley .....  |                  | 24½                | 29½                            | 25½   |

Schedule of proposals for grading Twenty-second and Twenty-fourth streets, Langdon, opened August 5, 1899.

| Bidder.                    | Price per cubic yard. | Cost.      |
|----------------------------|-----------------------|------------|
| Matthew Myers .....        | \$0. 32               | \$3,840.00 |
| Andrew Gleeson .....       | . 33                  | 3,960.00   |
| Martin McNamara & Co ..... | . 37                  | 4,440.00   |
| E. G. Gummell .....        | . 39                  | 4,680.00   |

Schedule of proposals for grading roadway from Brightwood avenue across Rock Creek Park, opened September 2, 1899.

| Bidder.              | East of Rock Creek. | West of Rock Creek. | Total roadway. |
|----------------------|---------------------|---------------------|----------------|
| M. McNamara .....    | \$0. 23             | \$0. 24             | \$0. 23        |
| Andrew Gleeson ..... | . 23                | . 29                | . 23½          |
| M. F. Talty .....    | . 25                | . 30                | . 26           |
| G. B. Mullin .....   | . 24                | . 28                | . 26           |

Schedule of proposals for grading Thirty-seventh street, opened October 21, 1899.

| Bidder.                  | Price per cubic yard. | Total.     |
|--------------------------|-----------------------|------------|
| M. F. McNamara & Co..... | \$0. 24½              | \$1,225.00 |
| Andrew Gleeson .....     | . 27                  | 1,350.00   |
| M. F. Talty .....        | . 29                  | 1,450.00   |
| E. G. Gummell .....      | . 35                  | 1,750.00   |
| James Frawley.....       | . 41                  | 2,050.00   |

*Schedule of bids for grading Pennsylvania and Branch avenues SE., opened May 26, 1900.*

| Bidder.              | Price per cubic yard. |
|----------------------|-----------------------|
| P. D. Vinson .....   | \$0.16                |
| Coyle & Duffy .....  | .22                   |
| Matthew Myers .....  | .24½                  |
| Andrew Gleeson ..... | .15                   |
| Lyons Bros .....     | .23½                  |

*Schedule of bids for grading Kansas avenue, opened June 9, 1900.*

| Bidder.              | Grading per cubic yard. |
|----------------------|-------------------------|
| G. B. Mullin .....   | \$0.17½                 |
| Andrew Gleeson ..... | .17                     |
| Matthew Myers .....  | .19                     |
| Lyons Bros .....     | .32                     |
| P. D. Vinson .....   | .16½                    |

*Schedule of proposals for improving I street between South Capitol street and New Jersey avenue, opened May 12, 1900.*

| Bidder.              | Paving trap-rock roadway, per square yard (estimated 4,400 yards). | Setting granite curb, per linear foot (estimated 2,400 linear feet). | Total cost. |
|----------------------|--|--|-------------|
| Lyons Bros .....     | \$0.65   | \$0.17   | \$3,268.00  |
| Andrew Gleeson ..... | .55  | .12  | 2,708.00    |
| E. G. Gummell .....  | .70  | .18  | 3,512.00    |

*Schedule of proposals for improving Adams Mill road, from Columbia road to Zoological Park, opened June 11, 1900.*

| Bidder.              | Grading. | Laying cobble gutters. | Loading, hauling, spreading, and rolling macadam. | Total.     |
|----------------------|----------|------------------------|---|------------|
| Andrew Gleeson ..... | \$0.23   | \$0.45                 | \$0.75  | \$2,065.00 |
| Lyons Bros .....     | .30      | .30                    | 1.16  | 2,638.00   |
| G. B. Mullin .....   | .22½     | .34                    | 1.24  | 2,417.50   |

*Schedule of proposals for improving Connecticut avenue west of Rock Creek, opened June 16, 1900.*

| Bidder.              | Grading. | Remove and replace macadam. | Remove and replace gutters. | Total.     |
|----------------------|----------|-----------------------------|-----------------------------|------------|
| Andrew Gleeson ..... | \$0.95   | \$0.73                      | \$0.30                      | \$2,775.00 |
| G. B. Mullin .....   | .92      | .70                         | .30                         | 2,665.00   |

*Schedule of proposals for paving streets and avenues with sheet asphalt, opened June 23, 1900.*

| Bidder.                              | Asphalt roadway, per square yard. | Vitrified block gutters, per square yard. | Total.      |
|--------------------------------------|-----------------------------------|---|-------------|
| Barber Asphalt Paving Co .....       | \$1.79½                           | \$1.40                                    | \$59,730.00 |
| Cranford Paving Co .....             | 1.80                              | 1.40                                      | 59,840.00   |
| Southern Asphalt Paving Co .....     | 2.00                              | 1.60                                      | 66,720.00   |
| Metropolitan Asphalt Paving Co ..... | 2.10                              | 1.70                                      | 70,140.00   |

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Schedule of proposals for making repairs to asphalt pavements, opened June 9, 1900.

| Item.                                       | Per—              | One-year contract.  |               |                           |               |
|---|-------------------|---------------------|---------------|---------------------------|---------------|
|   |                   | Cranford Paving Co. |               | Barber Asphalt Paving Co. |               |
|   |                   | Price.              | Total.        | Price.                    | Total.        |
| Standard asphalt pavement on 6-inch base.   | Square yard ..... | \$1. 77             | \$28, 320. 00 | \$1. 79                   | \$28, 640. 00 |
| Standard asphalt surface (2½ inches).....   | do .....          | . 92                | 16, 560. 00   | . 96                      | 17, 280. 00   |
| Standard asphalt surface (2 inches).....    | do .....          | . 82                | 4, 100. 00    | . 86                      | 4, 300. 00    |
| Standard asphalt surface, measured in cart. | Cubic foot.....   | . 61                | 30, 500. 00   | . 63                      | 31, 500. 00   |
| Asphalt binder, measured in cart.....       | do .....          | . 32                | 30, 400. 00   | . 33                      | 31, 350. 00   |
| Standard asphalt surface, by burner .....   | do .....          | 1. 00               | 16, 000. 00   | 1. 05                     | 16, 800. 00   |
| Total .....                                 | .....             | .....               | 125, 880. 00  | .....                     | 129, 870. 00  |

| Item.                                       | Per—              | Three-year contract. |               |                           |               |
|---|-------------------|----------------------|---------------|---------------------------|---------------|
|   |                   | Cranford Paving Co.  |               | Barber Asphalt Paving Co. |               |
|   |                   | Price.               | Total.        | Price.                    | Total.        |
| Standard asphalt pavement on 6-inch base.   | Square yard ..... | \$1. 77              | \$28, 320. 00 | \$1. 78                   | \$28, 480. 00 |
| Standard asphalt surface (2½ inches).....   | do .....          | . 91                 | 16, 380. 00   | . 94                      | 16, 920. 00   |
| Standard asphalt surface (2 inches).....    | do .....          | . 81                 | 4, 050. 00    | . 85                      | 4, 250. 00    |
| Standard asphalt surface, measured in cart. | Cubic foot.....   | . 60                 | 30, 000. 00   | . 63                      | 31, 500. 00   |
| Asphalt binder, measured in cart.....       | do .....          | . 31                 | 29, 450. 00   | . 33                      | 31, 350. 00   |
| Standard asphalt surface, by burner .....   | do .....          | 1. 00                | 16, 000. 00   | 1. 05                     | 16, 800. 00   |
| Total .....                                 | .....             | .....                | 124, 200. 00  | .....                     | 129, 300. 00  |

| Item.                                       | Per—              | Five-year contract. |               |                           |               |
|---|-------------------|---------------------|---------------|---------------------------|---------------|
|   |                   | Cranford Paving Co. |               | Barber Asphalt Paving Co. |               |
|   |                   | Price.              | Total.        | Price.                    | Total.        |
| Standard asphalt pavement on 6-inch base.   | Square yard ..... | \$1. 74             | \$27, 840. 00 | \$1. 77                   | \$28, 320. 00 |
| Standard asphalt surface (2½ inches).....   | do .....          | . 89                | 16, 020. 00   | . 93                      | 16, 740. 00   |
| Standard asphalt surface (2 inches).....    | do .....          | . 79                | 3, 950. 00    | . 84                      | 4, 200. 00    |
| Standard asphalt surface, measured in cart. | Cubic foot.....   | . 59                | 29, 500. 00   | . 61                      | 30, 500. 00   |
| Asphalt binder, measured in cart.....       | do .....          | . 30                | 28, 500. 00   | . 32                      | 30, 400. 00   |
| Standard asphalt surface, by burner .....   | do .....          | 1. 00               | 16, 000. 00   | 1. 00                     | 16, 000. 00   |
| Total .....                                 | .....             | .....               | 121, 810. 00  | .....                     | 126, 160. 00  |

Schedule of proposals for laying cement sidewalks in the District of Columbia, opened September 23, 1899.

| Bidder.                  | Class A. | Class B. | Total.        |
|--------------------------|----------|----------|---------------|
| Fred Drew.....           | \$1. 13  | \$1. 23  | \$99, 300. 00 |
| Andrew Gleeson.....      | 1. 19    | 1. 24    | 72, 150. 00   |
| F. M. Kemp & Son .....   | 1. 04½   | 1. 08    | 63, 337. 50   |
| Cranford Paving Co ..... | . 96     | 1. 02    | 53, 800. 00   |

*Schedule of proposals for construction of sewers, opened July 29, 1899.*

SEWER A.

| Bidder.                 | Earth excavation above sewer subgrade. | Embankment. | Brick masonry laid in natural-cement mortar. | Vitrified-brick masonry laid in Portland cement. | Concrete masonry. | Total cost. |
|-------------------------|--|-------------|--|--|-------------------|-------------|
| John Jacoby .....       | \$0.70                                 | \$0.20      | \$9.50                                       | \$16.00  | \$5.00            | \$65,485.00 |
| T. Wallace Reilly ..... | 1.00                                   | .10         | 9.00   | 15.00  | 4.75              | 77,820.00   |
| John M. Murphy .....    | .95                                    | .25         | 9.50   | 17.50  | 6.09              | 78,835.00   |
| B. J. Coyle.....        | 1.20                                   | .01         | 10.20  | 21.00  | 6.95              | 94,496.00   |

SEWER B.

| Bidder.                | Excavating above sewer subgrade. | Brick masonry laid in natural-cement mortar. | Vitrified masonry laid in Portland-cement mortar. | Concrete masonry. | Total cost.  |
|------------------------|----------------------------------|--|---|-------------------|--------------|
| John Jacoby.....       | \$0.50                           | \$9.00                                       | \$16.00   | \$5.00            | \$104,130.00 |
| T. Wallace Reilly..... | 1.00                             | 9.00   | 15.00   | 4.75              | 145,350.00   |
| B. J. Coyle .....      | .82                              | 9.95   | 20.50   | 6.70              | 142,372.50   |
| T. B. Jones & Co ..... | .85                              | 9.50   | 16.60   | 4.95              | 136,423.00   |

SEWER C.

| Bidder.                      | Excavation above sewer subgrade. | Embankment. | Brick masonry laid in natural-cement mortar. | Red brick masonry laid in Portland-cement mortar. | Vitrified-brick masonry laid in Portland-cement mortar. | Concrete masonry. | Total cost.  |
|------------------------------|----------------------------------|-------------|--|---|---|-------------------|--------------|
| John Jacoby .....            | \$0.30                           | \$0.20      | \$8.50                                       | \$12.50   | \$16.00   | \$4.20            | \$217,660.00 |
| T. Wallace Reilly.....       | .40                              | .05         | 8.25   | 9.25  | 13.50   | 4.25              | 208,675.00   |
| John M. Murphy .....         | .36                              | .01         | 8.00   | 9.90  | 14.50   | 4.50              | 206,712.00   |
| B. J. Coyle .....            | .88                              | .20         | 9.30   | 10.70   | 18.00   | 5.40              | 244,936.00   |
| T. B. Jones & Co .....       | .33                              | .15         | 8.35   | 12.10   | 16.15   | 4.45              | 218,167.00   |
| Cranford Paving Co .....     | .30                              | .25         | 9.00   | 10.75   | 16.25   | 5.50              | 235,960.00   |
| Lyons Brothers.....          | .50                              | .35         | 9.00   | 10.50   | 18.00   | 5.50              | 252,270.00   |
| Andrew Gleeson.....          | .60                              | .25         | 9.50   | 10.50   | 17.00   | 5.25              | 258,485.00   |
| John Miller .....            | .30                              | .20         | 8.00   | 9.92  | 13.50   | 4.25              | 204,174.60   |
| Ferguson Contracting Co..... | .84                              | .20         | 9.25   | 11.25   | 16.00   | 4.60              | 232,180.00   |

SEWER D.

| Bidder.                   | Excavating above sewer subgrade. | Brick masonry laid in natural-cement mortar. | Vitrified-brick masonry laid in Portland-cement mortar. | Concrete masonry. | Total cost. |
|---------------------------|----------------------------------|--|---|-------------------|-------------|
| Lyons Brothers.....       | \$1.00                           | \$10.50                                      | \$18.00   | \$6.00            | \$6,426.00  |
| Andrew Gleeson.....       | .75                              | 10.75  | 18.00   | 5.75              | 5,883.00    |
| E. G. Gummel .....        | .87                              | 13.00  | 24.00   | 9.00              | 7,445.50    |
| Martin McNamara & Co..... | .85                              | 11.38  | 18.20   | 5.82              | 6,268.30    |

## 146 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

*Schedule of proposals for construction of sewers, opened July 22, 1899—Continued.*

## SEWER E.

| Bidder.                    | Excava-<br>tion<br>above<br>sewer<br>subgrade. | Brick<br>masonry<br>laid in<br>natural-<br>cement<br>mortar. | Vitrified-<br>brick<br>masonry<br>laid in<br>Portland-<br>cement<br>mortar. | Concrete<br>masonry. | Invert<br>blocks. | Total<br>cost. |
|----------------------------|--|--|---|----------------------|-------------------|----------------|
| Lyons Brothers .....       | \$0.50   | \$10.00  | \$18.00   | \$5.50               | \$0.70            | \$4,793.00     |
| Andrew Gleeson .....       | .60  | 9.50   | 17.00   | 5.25                 | .69               | 4,738.00       |
| E. G. Gummel .....         | .60  | 11.00  | 20.00   | 5.00                 | .90               | 5,125.00       |
| Martin McNamara & Co ..... | .60  | 10.85  | 18.20   | 5.95                 | .60               | 4,877.00       |

## SEWER F.

*Schedule of proposals for constructing sewers, bids opened October 31, 1899.*

## SEWER A.

| Bidder.               | Excavation<br>above<br>sewer sub-<br>grade. | Brick ma-<br>sonry in<br>natural<br>cement. | Vitrified-<br>brick ma-<br>sonry in<br>Portland<br>cement. | Concrete<br>masonry. | Invert<br>blocks. | Total<br>cost. |
|-----------------------|---|---|--|----------------------|-------------------|----------------|
| Adam McCandlish ..... | \$0.55                                      | \$9.00                                      | \$15.50  | \$4.50               | \$0.00            | \$3,802.50     |
| W. F. Brenizer .....  | .58   | 9.55  | 14.95  | 5.00                 | .55               | 3,909.40       |
| John Jacoby .....     | .60   | 9.50  | 17.00  | 4.75                 | .65               | 4,147.00       |
| Lyons Brothers .....  | .60   | 9.85  | 16.90  | 5.00                 | .70               | 4,268.90       |
| E. G. Gummel .....    | .75   | 9.65  | 17.75  | 4.00                 | .75               | 4,559.00       |

## SEWER B.

|                       |        |        |         |        |        |            |
|-----------------------|--------|--------|---------|--------|--------|------------|
| Adam McCandlish ..... | \$1.50 | \$9.00 | \$15.00 | \$4.75 | \$0.60 | \$4,541.00 |
| W. F. Brenizer .....  | .48    | 9.00   | 18.75   | 4.90   | .55    | 4,730.75   |
| John Jacoby .....     | .50    | 9.75   | 18.00   | 5.00   | .70    | 5,265.00   |
| Lyons Brothers .....  | .60    | 9.85   | 16.90   | 5.00   | .75    | 5,484.00   |
| E. G. Gummel .....    | .75    | 10.25  | 20.00   | 5.00   | .85    | 6,101.00   |

## SEWER C.

| Bidder.               | Excavation<br>above<br>sewer sub-<br>grade. | Brick ma-<br>sonry laid<br>in natural-<br>cement<br>mortar. | 24-inch<br>pipe. | 21-inch<br>pipe. | 18-inch<br>pipe. | Total<br>cost. |
|-----------------------|---|---|------------------|------------------|------------------|----------------|
| Adam McCandlish ..... | \$0.48                                      | \$9.00  | \$0.70           | \$0.60           | \$0.55           | \$1,884.00     |
| W. F. Brenizer .....  | .46   | 10.00   | .77              | .69              | .61              | 1,953.00       |
| Lyons Brothers .....  | .55   | 9.90  | .80              | .75              | .68              | 2,212.00       |
| E. G. Gummel .....    | .47   | 9.00  | .79              | .65              | .57              | 1,871.00       |

*Schedule of proposals for constructing sewers, bids opened October 21, 1899—Continued.*

SEWER D.

| Bidder.              | Excavation<br>above sewer<br>subgrade. | Brick ma-<br>sonry laid in<br>natural ce-<br>ment. | 24-inch<br>pipe. | 21-inch<br>pipe. | Total cost. |
|----------------------|--|--|------------------|------------------|-------------|
| Adam McCandlish..... | \$0.55                                 | \$9.00   | \$0.60           | \$0.55           | \$1,829.00  |
| W. F. Brenizer.....  | .46                                    | 10.00  | .77              | .69              | 1,851.45    |
| Lyons Brothers.....  | .60                                    | 10.50  | .90              | .88              | 2,286.80    |
| E. G. Gummel.....    | .47                                    | 10.00  | .88              | .72              | 1,924.55    |

SEWER E.

| Bidder.               | Excavation<br>above sewer<br>subgrade. | Brick ma-<br>sonry laid in<br>natural-<br>cement mor-<br>tar. | 12-inch<br>pipe. | 10-inch<br>pipe. | Total cost. |
|-----------------------|--|---|------------------|------------------|-------------|
| Adam McCandlish ..... | \$0.50                                 | \$9.00  | \$0.40           | \$0.38           | \$2,170.06  |
| W. F. Brenizer.....   | .46                                    | 10.00   | .45              | .42              | 2,197.20    |
| Lyons Brothers.....   | .60                                    | 10.50   | .60              | .55              | 2,841.70    |
| E. G. Gummel.....     | .50                                    | 10.50   | .39              | .85              | 2,138.18    |

*Schedule of proposals for the construction of sewers, opened June 9, 1900.*

SEWER A.

| Bidder.             | Excava-<br>tion<br>above<br>sub-<br>grade. | Brick ma-<br>sonry<br>laid in<br>natural<br>cement. | 21-inch<br>pipe laid. | Total cost. |
|---------------------|--|---|-----------------------|-------------|
| P. D. Vinson.....   | \$0.24½                                    | \$8.00  | \$0.60                | \$649.63    |
| M. F. Guiney .....  | .34  | 8.60  | .68                   | 766.52      |
| E. G. Gummell ..... | .40  | 10.00   | .60                   | 743.20      |
| Duffy & Coyle.....  | .40  | 10.50   | .70                   | 824.70      |
| Andrew Gleeson..... | .50  | 12.00   | .75                   | 926.50      |
| Lyons Brothers..... | .48  | 11.00   | .85                   | 989.54      |

SEWER B.

| Bidder.             | Excava-<br>tion<br>above<br>sub-<br>grade. | Brick ma-<br>sonry<br>laid in<br>natural<br>cement. | 21-inch<br>pipe laid. | Total cost. |
|---------------------|--|---|-----------------------|-------------|
| P. D. Vinson.....   | \$0.29½                                    | \$8.00  | \$0.63                | \$949.49    |
| M. F. Guiney .....  | .57  | 8.60  | .71                   | 1,387.91    |
| E. G. Gummell ..... | .50  | 10.00   | .63                   | 1,235.50    |
| Duffy & Coyle.....  | .45  | 10.50   | .70                   | 1,225.85    |
| Andrew Gleeson..... | .59  | 12.00   | .75                   | 1,464.17    |
| Lyons Brothers..... | .60  | 11.00   | .85                   | 1,552.80    |

SEWER C.

| Bidder.             | Excava-<br>tion<br>above<br>sub-<br>grade. | Brick ma-<br>sonry<br>laid in<br>natural<br>cement. | 21-inch<br>pipe laid. | Total cost. |
|---------------------|--|---|-----------------------|-------------|
| P. D. Vinson.....   | \$0.26½                                    | \$8.50  | \$0.67½               | \$1,203.75  |
| M. F. Guiney .....  | .42  | 10.60   | .85                   | 1,619.20    |
| E. G. Gummell ..... | .50  | 11.00   | .70                   | 1,542.00    |
| Duffy & Coyle.....  | .45  | 12.00   | .85                   | 1,666.50    |
| Andrew Gleeson..... | .50  | 12.00   | .95                   | 1,849.00    |
| Lyons Brothers..... | .75  | 11.00   | .95                   | 2,154.50    |



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*Schedule of proposals for the construction of sewers, opened June 9, 1900—Continued.*

SEWER D.

SEWER B.

11

*Schedule of bids for constructing Massachusetts avenue masonry bridge, opened June 18, 1900.*

<sup>1</sup> This estimate is for the stone delivered at the site. Total, \$12,504.

*Schedule of bids for constructing arch over the mouth of Broad Branch, opened June 9, 1900.*

| Bidder.            | Masonry.        |                 |                 | Total.     |
|--------------------|-----------------|-----------------|-----------------|------------|
|                    | Stone.          | Brick arch.     | Concrete.       |            |
|                    | <i>Cu. yds.</i> | <i>Cu. yds.</i> | <i>Cu. yds.</i> |            |
| Lyons Bros.....    | 13.75           | 15.35           | 7.20            | \$3,857.00 |
| Albert Weber ..... | 8.50            | 11.00           | 8.00            | 2,845.00   |

*Schedule of proposals for constructing a school building on lots 12 and 13, block 22, Columbia Heights.*

| Bidder.                  | Amount.     |
|--------------------------|-------------|
| George W. Corbett .....  | \$32,793.45 |
| N. H. Thomas.....        | 28,840.00   |
| Gleeson & Humphrey ..... | 31,800.00   |

*Schedule of proposals for constructing an additional building for the Girls' Reform School, opened August 5, 1899.*

| Bidder.                              | Amount.     |
|--------------------------------------|-------------|
| Pavarini & Greer .....               | \$41,900.00 |
| W. E. Speir.....                     | 45,700.00   |
| John Hughes, jr.....                 | 43,100.00   |
| Edw. F. Jones.....                   | 41,840.00   |
| N. H. Thomas.....                    | 41,600.00   |
| D. F. Mockbee .....                  | 49,607.00   |
| E. Landvoight and W. A. Kimmel ..... | 48,797.00   |

*Schedule of proposals for constructing an addition to almshouse, opened August 5, 1899.*

| Bidder.                              | Amount.     | If cement mortar is used add— | Remarks.   |
|--------------------------------------|-------------|-------------------------------|--|
| E. Landvoight and W. A. Kimmel ..... | \$16,989.00 | \$500.00                      | 2 bids submitted.<br>Specifications did not accompany bid. |
| John Hughes, jr .....                | 16,680.00   | 330.00                        |  |
| D. F. Mockbee .....                  | 17,090.00   | 500.00                        |  |
| Pavarini & Greer.....                | 15,900.00   | 400.00                        |  |
| Gleeson & Humphrey .....             | 18,300.00   | 200.00                        |  |

*Schedule of proposals received August, 1899, for constructing an addition to almshouse.*

| Bidder.                  | Amount.     | If cement mortar is used add— | If side porch be omitted deduct— |
|--------------------------|-------------|-------------------------------|----------------------------------|
| John Hughes, jr.....     | \$14,725.00 | \$98.60                       | \$628.51                         |
| Landvoight & Kimmel..... | 16,000.00   | 500.00                        | 1,114.00                         |
| D. F. Mockabee .....     | 14,845.00   | 180.00                        | 960.00                           |

*Schedule of proposals for constructing an assembly hall on grounds of Reform School for Boys, opened March 7, 1900.*

| Bidder.                | Amount for building. | Amount for electric wiring. | Total.      |
|------------------------|----------------------|-----------------------------|-------------|
| Pavarini & Greer.....  | \$11,463.65          | \$465.00                    | \$11,928.65 |
| Burgess & Parsons..... | 11,290.00            | 255.00                      | 11,545.00   |
| John Hughes, jr.....   | 13,286.00            | 434.50                      | 13,720.50   |

150      OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

*Schedule of proposals for constructing truck house for fire department on S street NW., between Thirty-fourth and Thirty-fifth streets, opened July 29, 1899.*

| Bidder.                          | Amount.       | Additional cost—                                    |                                    |   |  |
|----------------------------------|---------------|---|------------------------------------|---|--|
|                                  |               | If front is laid with standard-size brick, No. 164. | If Roman brick is used on 3 sides. | If plastering walls and wainscoting in truck room is omitted. | If first story over cellar is made fire-proof. |
| Wm. S. Spencer .....             | \$20, 779. 00 | \$580. 00   | \$580. 00                          | \$430. 00   | .....  |
| D. F. Mockabee .....             | 19, 311. 00   | .....   | .....                              | .....   | .....  |
| C. Thomas .....                  | 19, 500. 00   | 405. 00   | 545. 00                            | .....   | \$270. 00                                      |
| G. W. Corbett <sup>1</sup> ..... | 18, 889. 00   | 405. 00   | 270. 00                            | 500. 00   | 620. 00  |

<sup>1</sup> Specifications did not accompany bid of G. W. Corbett.

*Schedule of proposals for constructing truck house for fire department on Whitney avenue, between Thirteenth and Fourteenth streets NW., opened July 29, 1899.*

| Bidder.                          | Amount.       | Additional cost—                                    |                                    |   |   |
|----------------------------------|---------------|---|------------------------------------|---|---|
|                                  |               | If front is laid with standard-size brick, No. 164. | If Roman brick is used on 3 sides. | If plastering walls and wainscoting in truck room is omitted. | If first story above cellar is made fire-proof. |
| D. F. Mockabee .....             | \$15, 854. 00 | .....   | .....                              | .....   | .....   |
| Wm. S. Spencer .....             | 18, 604. 00   | \$360. 00   | \$590. 00                          | \$500. 00   | .....   |
| W. E. Speir .....                | 16, 300. 00   | .....   | .....                              | 350. 00   | \$700. 00                                       |
| G. W. Corbett <sup>1</sup> ..... | 15, 907. 00   | 380. 00   | 225. 00                            | 460. 00   | 600. 00   |

<sup>1</sup> Specifications did not accompany bid of G. W. Corbett.

*Proposals for constructing truck house on Whitney avenue NW., between Thirteenth and Fourteenth streets NW., opened September 2, 1899.*

| Bidder.                  | Amount.       |
|--------------------------|---------------|
| Gleeson & Humphrey ..... | \$15, 900. 00 |
| John Hughes.....         | 12, 480. 00   |

*Schedule of proposals for constructing truck house on S street, between Thirty-fourth and Thirty-fifth streets, opened September 2, 1899.*

| Bidder.                  | Amount.       |
|--------------------------|---------------|
| D. F. Mockabee.....      | \$16, 792. 00 |
| Gleeson & Humphrey ..... | 17, 400. 00   |
| John Hughes.....         | 12, 638. 00   |

*Proposals for constructing truck house for fire department on S street NW., between Thirty-fourth and Thirty-fifth streets, opened January 27, 1900.*

| Bidder.                 | Price.        |
|-------------------------|---------------|
| J. M. Dunn .....        | \$15, 929. 00 |
| John Hughes, jr.....    | 15, 500. 00   |
| Cranford Paving Co..... | 16, 000. 00   |

*Schedule of proposals for construction and installation of a steam-heating apparatus in additional building at Girls' Reform School, opened August 5, 1900.*

| Bidder.   | Amount.    | Remarks.    |
|---|------------|-------------|
| Zellers & Co.....                                   | \$8,489.00 | No deposit. |
| Gillis & Geoghegan.....                             | 5,000.00   |             |
| E. Rutzler.....                                     | 4,531.00   |             |
| Weaver & Hoffman.....                               | 3,745.00   |             |
| Blake & Williams.....                               | 3,745.00   |             |
| The Warren W. Biggs Heating and Ventilating Co..... | 3,291.00   |             |

*Schedule of proposals for constructing two steam boilers and connections for Franklin School, opened August 31, 1899.*

| Bidder.   | Amount.    |
|---|------------|
| Forsberg & Murray.....                          | \$3,289.00 |
| Warren W. Biggs Heating and Ventilating Co..... | 2,269.00   |
| Bennett & French.....                           | 2,364.00   |

*Schedule of proposals for constructing boiler room and repairing heating apparatus on grounds smallpox hospital, opened September 2, 1899.*

| Bidder.   | Amount.    |
|---|------------|
| Forsberg & Murray.....                          | \$1,325.00 |
| Warren W. Biggs Heating and Ventilating Co..... | 1,530.00   |

*Schedule of proposals for repairs to and changes in plumbing in Central and Colored High School buildings, opened August 5, 1899.*

| Bidder.                | Amount.                |
|------------------------|------------------------|
| E. J. Hannan.....      | \$5,595.00             |
| S. S. Shedd & Bro..... | { 5,890.00<br>6,097.00 |

*Schedule of proposals for repairs to and changes in plumbing in Summer School building, opened August 21, 1899.*

| Bidder.                 | Amount.    |
|-------------------------|------------|
| S. S. Shedd & Bro.....  | \$9,548.00 |
| Wm. Rathwell.....       | 8,444.00   |
| James Nolan & Sons..... | 7,240.00   |
| Edw. J. Hannan.....     | 7,997.00   |

*Schedule of proposals for repairs and changes in plumbing in Banneker School building, opened March 10, 1900.*

| Bidder.                 | Amount.    |
|-------------------------|------------|
| E. J. Hannan.....       | \$3,961.96 |
| James Nolan & Sons..... | 3,685.00   |
| S. S. Shedd & Bro.....  | 3,597.40   |

*Schedule of proposals for repairs to and changes in plumbing in Grant School, opened June 27, 1900.*

| Bidder.                 | Amount.    |
|-------------------------|------------|
| E. J. Hannan.....       | \$3,726.00 |
| S. S. Shedd & Bro.....  | 3,573.00   |
| James Nolan & Sons..... | 3,525.00   |

152      OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

*Proposals for erecting two gatehouses at Brightwood Reservoir, opened May 19, 1900.*

| Bidder.                 | Amount.     |
|-------------------------|-------------|
| J. F. Manning & Co..... | \$18,908.00 |
| D. F. Mockabee.....     | 26,915.00   |

*Schedule of proposals for excavating on site for new pumping station, opened June 9, 1900.*

| Bidder.             | Price. | Cost.      |
|---------------------|--------|------------|
| Geo. S. Post.....   | \$0.30 | \$4,500.00 |
| Lyons Bros.....     | .23    | 3,450.00   |
| M. F. Talty.....    | .21    | 3,150.00   |
| Andrew Gleeson..... | .14½   | 2,212.50   |

*Schedule of proposals for quarrying and crushing stone, opened June 16, 1900.*

|                              | Stone loaded in cars, per cubic yard. | Stone delivered in piles, per cubic yard. | Stone loaded from piles to cars, per cubic yard. | Total.      |
|------------------------------|---------------------------------------|---|--|-------------|
| Standard Lime and Stone Co.: |                                       |   |  |             |
| One year.....                | \$1.20                                | \$1.20                                    | .....  | \$43,500.00 |
| Two years.....               | 1.15                                  | 1.15                                      | .....  | 41,745.00   |
| Three years.....             | 1.10                                  | 1.10                                      | .....  | 39,990.00   |
| Five years.....              | .98                                   | .98                                       | .....  | 35,574.00   |
| J. C. Regan & Co.:           |                                       |   |  |             |
| One year.....                | 1.00                                  | 1.10                                      | \$1.10   | 40,200.00   |
| Two years.....               | .97                                   | 1.07                                      | 1.07   | 39,072.00   |
| Three years.....             | .95                                   | 1.05                                      | 1.05   | 38,280.00   |
| Five years.....              | .90                                   | 1.00                                      | 1.00   | 35,800.00   |

*Schedule of proposals for furnishing terra-cotta sewer pipe and invert blocks, opened August 14, 1899.*

| Material.                              | The Free-man Fire Clay Co. | Angus La-mond. | Mack Manu-factur-ing Co. | The Po-tomac Terra Cotta Co. | Akron Sewer Pipe Co. <sup>1</sup> | Thos. Som-er-ville & Sons. | Savage Fire Brick Co. | J. H. Gulise. |
|--|----------------------------|----------------|--------------------------|------------------------------|-----------------------------------|----------------------------|-----------------------|---------------|
| Terra-cotta sewer pipe:                |                            |                |                          |                              |                                   |                            |                       |               |
| 24-inch.....                           |                            |                | \$0.59                   | \$0.65                       | \$0.87½                           | \$0.64                     | .....                 | .....         |
| 21-inch.....                           |                            |                | .45                      | .58                          | .....                             | .60                        | .....                 | .....         |
| 18-inch.....                           | \$0.51                     |                | .....                    | .84                          | .42½                              | .33                        | .....                 | .....         |
| 15-inch.....                           | .35                        |                | .....                    | .25                          | .31½                              | .24½                       | .....                 | .....         |
| 12-inch.....                           | .21½                       | \$0.15½        | .....                    | .17                          | .21½                              | .16                        | .....                 | .....         |
| 10-inch.....                           | .16½                       |                | .13                      | .15                          | .16½                              | .15½                       | .....                 | .....         |
| 8-inch.....                            | .11½                       | .08½           | .10                      | .09½                         | .11½                              | .09                        | .....                 | .....         |
| 6-inch.....                            | .07½                       | .05½           | .....                    | .06½                         | .07½                              | .06                        | .....                 | .....         |
| Terra-cotta Y branches:                |                            |                |                          |                              |                                   |                            |                       |               |
| 24 by 6 inch.....                      |                            |                | 2.50                     | 3.30                         | 3.95                              | 3.45                       | .....                 | .....         |
| 21 by 6 inch.....                      |                            |                | 2.10                     | 2.50                         | .....                             | 2.80                       | .....                 | .....         |
| 18 by 6 inch.....                      | 2.30                       |                | 1.40                     | 1.70                         | 1.91                              | 1.75                       | .....                 | .....         |
| 15 by 6 inch.....                      | 1.58                       |                | 1.10                     | 1.25                         | 1.40                              | 1.30                       | .....                 | .....         |
| 12 by 6 inch.....                      | .96                        |                | .75                      | .85                          | .96                               | .89                        | .....                 | .....         |
| 10 by 6 inch.....                      | .73                        |                | .....                    | .70                          | .73                               | .77                        | .....                 | .....         |
| 8 by 6 inch.....                       | .50                        |                | .....                    | .45                          | .50                               | .40                        | .....                 | .....         |
| Terra-cotta reducers, 8 to 6 inch..... | .45                        |                | .....                    | .38                          | .45                               | .40                        | .....                 | .....         |
| Terra-cotta sewer bends:               |                            |                |                          |                              |                                   |                            |                       |               |
| 6-inch.....                            | .27½                       | .21½           | .....                    | .24                          | .27½                              | .22                        | .....                 | .....         |
| 8-inch.....                            | .45                        | .35            | .....                    | .38                          | .45                               | .36                        | .....                 | .....         |
| Vitrified sewer invert blocks.....     | .....                      | .84            | .50                      | .60                          | .....                             | .58                        | .....                 | .....         |
| Vitrified sewer invert bricks.....     | .....                      | .....          | .....                    | .....                        | .....                             | .....                      | \$17.75               | \$13.40       |

<sup>1</sup> Bid withdrawn August 12, 1899.



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*Proposals received June 2, 1900, for furnishing sand and gravel.*

| Bidder.                                  | Paving<br>and con-<br>crete<br>sand. | Building<br>sand. | Screened<br>gravel. |
|--|--------------------------------------|-------------------|---------------------|
| L. E. Smoot .....                        | \$0.50                               | \$0.575           | \$0.25              |
| John B. Lord .....                       | .60                                  | .75               | .25                 |
| Columbia National Sand Dredging Co ..... | .55                                  | .70               | .25                 |

*Schedule of bids received for furnishing red sewer brick, opened June 2, 1900.*

|   | Standard<br>Brick Co. |
|---|-----------------------|
| In city of Washington.....  | \$0.45                |
| In city of Georgetown.....  | .25                   |
| In county of Washington, east of Eastern Branch.....                | .25                   |
| In county of Washington, between Eastern Branch and Rock Creek..... | .25                   |
| In county of Washington, west of Rock Creek .....                   | 11.42                 |
| At bidder's works.....  | .45                   |
| For hauling beyond limits for each mile or fraction of mile.....    | .30                   |

*Schedule of bids received June 2, 1900, for furnishing red sidewalk paving brick.*

| Bidder.                    | Price per<br>thousand. |
|----------------------------|------------------------|
| Standard Brick Co.....     | \$11.00                |
| Frederick Brick Works..... | 11.15                  |

*Schedule of proposals for furnishing granite curbing, opened August 7, 1899.*

| Bidder.                        | 6 by 20<br>inches,<br>straight,<br>per foot. | 6 by 20<br>inches,<br>circular,<br>per foot. | 8 by 8<br>inches,<br>straight,<br>per foot. | 8 by 8<br>inches,<br>circular,<br>per foot. |
|--------------------------------|--|--|---|---|
| Brantley Granite Co .....      | \$0.65                                       | \$0.80                                       | \$0.55                                      | \$0.70                                      |
| Francis Jones & Co .....       | .675   | .875   | .575  | .75   |
| The Brandywine Granite Co..... |  |  | .59   | .73   |
| John Merrick Horn.....         | .76  | .96  | .63   | .77   |
|                                | .80  | 1.10   | .74   | 1.00  |
| A. B. Cook <sup>1</sup> .....  | .84  |  | .78   |   |
|                                | .88  |  | .84   |   |
|                                | 1.00   |  | .90   |   |
| Venable Bros .....             | .85  | 1.30   | .70   | 1.20  |
| McIvain Unkefer Co.....        | .875   | 1.16   | .78   | 1.12  |
| George Peirce.....             | .97  | 1.19   | .77   | .97   |

<sup>1</sup> Proportionate quantities.

*Schedule of proposals for furnishing granite curbing, opened June 2, 1900.*

| Bidder.                   | 6 by 20<br>inches,<br>straight,<br>per foot. | 6 by 20<br>inches,<br>circular,<br>per foot. | 8 by 8<br>inches,<br>straight,<br>per foot. | 8 by 8<br>inches,<br>circular,<br>per foot. |
|---------------------------|--|--|---|---|
| Francis Jones & Co .....  | \$0.745                                      | \$0.95                                       | \$0.62                                      | \$0.75                                      |
| Brantley Granite Co ..... | .775   | 1.00   | .675  | .80   |
| Asa B. Cook.....          | .94  | 1.38   | .84   | 1.20  |
| Geo. Peirce .....         | .97  | 1.46   | .83   | 1.10  |

Proposals for furnishing granite coping for Brightwood reservoir, opened August 10, 1899.

| Bidder.                                  | Cost.      |
|--|------------|
| Antonio Malnati .....                    | \$4,427.00 |
| Albert Weber.....                        | 4,590.00   |
| John Merrick Horn .....                  | 5,170.00   |
| George Peirce .....                      | 6,501.00   |
| Bodwell Granite Co .....                 | 6,664.00   |
| Gulford and Waltersville Granite Co..... | 6,700.00   |
| George C. Esher .....                    | 8,850.00   |
| Amberg Granite Co .....                  | 8,500.00   |
| J. F. Manning & Co .....                 | 6,987.00   |

Schedule of proposals for furnishing Portland cement.

[Bids opened October 7, 1899.]

| Bidder.                      | Brand.                    | Price. |
|------------------------------|---------------------------|--------|
| Alex Y. Hanna & Co.....      | Teutonia .....            | \$2.53 |
| Sparrow Friedenber& Co ..... | Climax .....              | 2.5387 |
| J. H. McGill.....            | {Germania .....           | 2.62   |
|                              | Atlas .....               |        |
|                              | Vulcanite .....           |        |
| Cranford Paving Co .....     | {Norzovetti.....          | 3.00   |
|                              | Any acceptable brand..... |        |

Schedule of bids received for furnishing Portland cement, opened June 2, 1900.

| Bidder.                           | Price per barrel. |
|-----------------------------------|-------------------|
| Lehigh Portland Cement Co .....   | \$2.09            |
| Alpha Portland Cement Co .....    | 2.12              |
| James H. McGill.....              | 2.14              |
| The Cranford Paving Co .....      | 2.14              |
| Coplay Cement Co.....             | 2.15              |
| The Brennan Construction Co ..... | 2.17              |
| J. G. Waters & Son.....           | 2.17              |
| Sparrow Friedenber& Co.....       | 2.208             |

Schedule of bids received June 2, 1900, for furnishing natural hydraulic cement.

| Bidder.                 | Price per barrel. |
|-------------------------|-------------------|
| National Mortar Co..... | \$0.71            |
| James H. McGill.....    | .73               |

Schedule of bids for furnishing macadam stone for Brightwood avenue, opened October 5, 1899.

|                                 | Daily delivery. | Price per cubic yard on road. | Price per cubic yard on cars. | Total bid.              |
|---------------------------------|-----------------|-------------------------------|-------------------------------|-------------------------|
|                                 | Yards.          |                               |                               |                         |
| Cranford Paving Co.....         | 50              | \$2.45                        | .....                         | \$12,250.00             |
| C. G. Smith & Son.....          | 50              | 2.30                          | .....                         | 11,500.00               |
| Standard Lime and Stone Co..... | 100             | .....                         | \$1.34                        | { 6,700.00<br>18,450.00 |

<sup>1</sup> Total price on the road.







158 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

*Statement of contracts for the construction of sewers for the fiscal year 1900—Continued*

| No.  | Date.         | Name and address of contractor.   | Location.  | To construct. |
|------|---------------|-----------------------------------|--|---------------|
| 2718 | Aug. 10, 1899 | Andrew Gleeson, Washington, D. C. | Adams' Mill road, between Kansas and Lanier avenues.   | Pipe sewer.   |
|      |               |                                   | Lanier avenue, between Adams' Mill road and Ontario avenue.  | Do.           |
| 2742 | Oct. 27, 1899 | E. G. Gummel .....                | Thirty-fifth street NW.,   | Do.           |
| 2743 | Oct. 13, 1899 | John Jacoby .....                 | E  | Brick sewer.  |
|      |               |                                   | E  |               |
| 2744 | Nov. 1, 1899  | Adam McCandlish .....             | streets NE.<br>First street NE., between D and F streets.  | Pipe sewer.   |
|      |               |                                   | Eighteenth street NW., between Kenesaw avenue and Grant street.  | Do.           |
|      |               |                                   | Grant street, between Seventeenth and Eighteenth streets.  | Do.           |
|      |               |                                   | Thirty-fifth street NW., between Q and T streets.  | Do.           |
| 2746 | Nov. 8, 1899  | Warren F. Brenizer .....          | Thirty-seventh street NW., between W and Y streets; Y street NW., between Thirty-seventh and Thirty-eighth streets.  | Brick sewer.  |
| 2769 | June 27, 1900 | Andrew Gleeson .....              | North Capitol, between G and I streets.  | Do.           |
| 2776 | June 29, 1900 | Peyton D. Vinson .....            | Klingbe Ford and Woodley roads, west of Connecticut and Wisconsin avenues.   | Pipe sewer.   |
| 2777 | June 29, 1900 | .....do .....                     | U street NW., between North Capitol and First streets; T street NW., between North Capitol and First streets; Brandywine street, between Seventh and Fifth streets; Fifth street, between Brandywine and Des Moines streets. | Do.           |





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# REPORT

OF THE

## OPERATIONS OF THE ENGINEER DEPARTMENT

OF THE

## DISTRICT OF COLUMBIA

FOR

THE YEAR ENDING JUNE 30, 1901,

UNDER THE DIRECTION OF

CAPTAIN LANSING H. BEACH, CORPS OF ENGINEERS, U. S. A.,  
ENGINEER COMMISSIONER, DISTRICT OF COLUMBIA.



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1901.

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TABLE A.—*Street railroads in operation in the District of Columbia, July 1, 1901.*

| Name of company.  | Tracks in use, owned by company. |               |                    |               |
|---|----------------------------------|---------------|--------------------|---------------|
|   | Underground electric.            |               | Overhead electric. |               |
|   | Double.                          | Single.       | Double.            | Single.       |
|   | <i>Miles.</i>                    | <i>Miles.</i> | <i>Miles.</i>      | <i>Miles.</i> |
| Washington Traction and Electric Co.:                     |                                  |               |                    |               |
| Metropolitan Railroad.....                                | 9.31                             | 3.98          | .....              | .....         |
| Columbia Railway.....                                     | 2.77                             | .....         | 4.12               | .00           |
| City and Suburban Rwy. of Washington.....                 | 4.06                             | 2.36          | 5.58               | .....         |
| Brightwood Rwy.....                                       | .....                            | .....         | 5.88               | .....         |
| Georgetown and Tennallytown Rwy.....                      | .....                            | .....         | 4.16               | .....         |
| Anacostia and Potomac River R. R.....                     | 6.52                             | .....         | 1.46               | 1.04          |
| Washington and Great Falls Electric Rwy.....              | .....                            | .....         | 3.88               | .....         |
| Washington and Glen Echo R. R.....                        | .....                            | .....         | .10                | .....         |
| Capital Traction.....                                     | 13.44                            | 3.26          | 3.57               | .....         |
| Baltimore and Washington Transit.....                     | .....                            | .....         | .....              | .48           |
| Washington, Alexandria and Mount Vernon Electric Rwy..... | .90                              | .83           | .....              | .....         |
| Total.....  | 37                               | 9.98          | 28.80              | 2.96          |

TABLE B.—*Statement of character and extent of street pavements July 1, 1901.*

| Section.        | Asphalt and coal tar. | Asphalt block.  | Vitrified block. | Granite.        | Cobble.         | Macadam.        | Gravel and unimproved. | Total.          |
|-----------------|-----------------------|-----------------|------------------|-----------------|-----------------|-----------------|------------------------|-----------------|
|                 | <i>Sq. yds.</i>       | <i>Sq. yds.</i> | <i>Sq. yds.</i>  | <i>Sq. yds.</i> | <i>Sq. yds.</i> | <i>Sq. yds.</i> | <i>Sq. yds.</i>        | <i>Sq. yds.</i> |
| Northwest.....  | 1,850,088             | 30,600          | 13,903           | 168,743         | 115,804         | 82,685          | 132,562                | 2,393,285       |
| Northeast.....  | 225,461               | 148,908         | 0                | 19,111          | 1,738           | 61,510          | 487,732                | 944,460         |
| Southeast.....  | 143,131               | 159,572         | 0                | 56,845          | 31,293          | 119,224         | 448,340                | 908,405         |
| Southwest.....  | 153,218               | 30,504          | 2,943            | 233,973         | 74,723          | 43,264          | 156,962                | 695,607         |
| Georgetown..... | 138,095               | 12,819          | 0                | 60,363          | 25,187          | 14,837          | 39,653                 | 290,854         |
| Suburban.....   | 264,777               | 25,592          | 0                | 32,254          | 0               | 658,945         | 551,633                | 1,513,201       |
| Total.....      | 2,774,720             | 407,995         | 16,846           | 571,289         | 248,335         | 980,465         | 1,816,902              | 6,816,552       |

**TABLE C.**—*Statement showing mileage of street pavements July 1, 1901.*

| Section.           | Asphalt and coal tar. |               | Asphalt block. |              | Vitrified block. |            | Granite.       |              |
|--------------------|-----------------------|---------------|----------------|--------------|------------------|------------|----------------|--------------|
|                    | Feet.                 | Miles.        | Feet.          | Miles.       | Feet.            | Miles.     | Feet.          | Miles.       |
| Northwest .....    | 405,855               | 77.00         | 8,580          | 1.63         | 2,250            | 0.42       | 43,728         | 8.28         |
| Northeast .....    | 59,651                | 11.30         | 30,543         | 5.78         | 0                | 0          | 4,700          | .89          |
| Southeast .....    | 37,441                | 7.09          | 38,128         | 7.22         | -----            | 0          | 15,408         | 2.92         |
| Southwest .....    | 39,293                | 7.44          | 8,187          | 1.55         | 500              | .10        | 55,716         | 10.55        |
| Georgetown .....   | 38,517                | 7.39          | 3,786          | .72          | 0                | 0          | 17,271         | 3.27         |
| Suburban .....     | 66,898                | 12.39         | 7,733          | 1.46         | 0                | 0          | 9,376          | 1.78         |
| <b>Total .....</b> | <b>647,155</b>        | <b>122.61</b> | <b>96,957</b>  | <b>18.36</b> | <b>2,750</b>     | <b>.52</b> | <b>146,197</b> | <b>27.69</b> |

| Section.           | Cobble.       |              | Macadam.       |              | Gravel and unimproved. |              | Total.           |               |
|--------------------|---------------|--------------|----------------|--------------|------------------------|--------------|------------------|---------------|
|                    | Feet.         | Miles.       | Feet.          | Miles.       | Feet.                  | Miles.       | Feet.            | Miles.        |
| Northwest .....    | 21,309        | 4.00         | 17,625         | 3.33         | 41,280                 | 7.82         | 540,627          | 102.48        |
| Northeast .....    | 750           | .14          | 13,674         | 2.59         | 127,506                | 24.15        | 236,824          | 44.85         |
| Southeast .....    | 10,806        | 1.96         | 31,594         | 6.00         | 112,317                | 21.27        | 245,252          | 46.46         |
| Southwest .....    | 16,294        | 3.09         | 10,370         | 1.96         | 44,414                 | 8.41         | 174,774          | 33.10         |
| Georgetown .....   | 9,631         | 1.82         | 4,420          | .80          | 11,391                 | 2.16         | 85,016           | 16.16         |
| Suburban .....     | 0             | 0            | 164,736        | 31.20        | 160,000                | 30.30        | 408,243          | 77.18         |
| <b>Total .....</b> | <b>58,850</b> | <b>11.01</b> | <b>242,419</b> | <b>45.88</b> | <b>496,908</b>         | <b>94.11</b> | <b>1,090,736</b> | <b>320.18</b> |



## 9

| Square yards. | Price per square yard. | Original cost. | Resurfaced. |                       | Repairs—average annual cost per square yard. |                    |               | Remarks.                                  |
|---------------|------------------------|----------------|-------------|-----------------------|--|--------------------|---------------|---|
|               |                        |                | Year.       | Cost per square yard. | Prior to resurfacing.                        | Since resurfacing. | Current year. |   |
| 2,788         | \$1.84                 | \$5,228.00     |             |                       | \$0.016                                      | 0                  | \$0.078       |   |
| 2,972         | 2.25                   | 7,028.00       |             |                       | .03  | 0                  | .086          |   |
| 4,206         | 1.98                   | 10,610.00      | 1900        | \$1.578               | .028   | 0                  | 0             |   |
| 2,300         | 2.07                   | 5,728.00       |             |                       |  |                    |               |   |
| 1,724         | 2.09                   | 8,714.00       | 1899        | 1.91                  | .046   | 0                  | 0             |   |
| 3,317         | 2.10                   | 7,919.00       |             |                       |  |                    |               |   |
| 2,391         | 1.98                   | 5,985.00       |             |                       |  |                    |               |   |
| 3,043         | 2.00                   | 8,182.00       |             |                       |  |                    |               |   |
| 1,703         | 1.77                   | 4,607.00       |             |                       |  |                    |               |   |
| 3,000         |                        |                |             |                       |  |                    |               |   |
| 2,666         |                        |                |             |                       |  |                    |               | Relaid in 1900.<br>In place of trap rock. |
| 8,700         |                        |                |             |                       |  |                    |               |   |
| 33,000        |                        |                |             |                       |  |                    |               |   |
| 1,868         |                        |                |             |                       |  |                    |               |   |
| 2,500         |                        |                |             |                       |  |                    |               |   |
| 1,590         | 2.00                   | 4,009.00       |             |                       | .0006  | 0                  | 0             |   |
| 4,413         | 1.77                   | 10,177.00      |             |                       |  |                    |               |   |
| 3,256         | 1.77                   | 5,763.00       |             |                       |  |                    |               |   |
| 1,675         |                        |                |             |                       |  |                    |               |   |
| 2,374         |                        |                |             |                       |  |                    |               |   |
| 7,018         |                        | 15,141.00      |             |                       |  |                    |               |   |
| 22,875        |                        |                |             |                       |  |                    |               |   |
| 2,231         | 1.77                   | 6,254.00       |             |                       |  |                    |               |   |
| 4,411         | 3.20                   | 14,114.00      | 1890        | .598                  | 0  | \$0.025            | 0             |   |
| 3,098         | 3.20                   | 9,918.00       | 1894        | 1.76                  | .03  | 0                  | 0             |   |
| 2,556         | 2.25                   | 6,025.00       |             |                       | .028   | 0                  | .006          |   |
| 2,016         | 2.25                   | 5,498.00       |             |                       | .01  |                    | .05           |   |
| 2,250         | 1.98                   | 5,223.00       |             |                       | .027   |                    | 0             |   |
| 1,066         | 1.63                   | 2,805.00       |             | 0                     | 0  | 0                  | 0             |   |
| 1,950         |                        |                |             |                       |  |                    |               |   |
| 6,440         |                        |                |             |                       |  |                    |               | Widening.                                 |
| 605           | 2.15                   | 1,281.00       |             |                       |  |                    |               |   |
| 6,487         | 3.20                   | 20,758.00      | 1875        | .965                  |  | .029               |               |   |
|               |                        |                | 1892        | 1.085                 |  | 0                  | .01           |   |
| 2,055         | 2.18                   |                |             | 0                     | 0  | 0                  | 0             |   |
| 3,810         | 2.09                   | 8,261.00       |             |                       | .034   |                    | .12           |   |
| 3,154         | 1.99                   | 7,833.00       | 1899        | 1.98                  | .05  | 0                  | 0             |   |
| 4,578         | 2.00                   | 15,475.00      |             |                       |  |                    |               |   |
| 15,406        | .75                    | 19,883.00      |             |                       |  |                    |               |   |
| 4,856         |                        |                |             |                       |  |                    |               |   |
| 5,305         | .73                    | 14,307.00      |             |                       |  |                    |               | Laid by United States Government.         |
| 12,840        | 1.47                   | 19,883.00      |             | 0                     | .012   |                    | 0             |   |
| 2,000         |                        |                |             |                       |  |                    |               |   |
| 2,075         | 1.78                   | 5,410.00       |             | 0                     | 0  | 0                  | 0             |   |
| 2,755         | 1.77                   | 5,191.00       |             |                       |  |                    |               |   |
| 1,918         |                        |                |             |                       |  |                    |               |   |
| 15,000        |                        |                |             |                       |  |                    |               |   |
| 1,584         | 1.76                   | 3,557.00       |             |                       |  |                    |               |   |
| 13,000        |                        |                |             |                       |  |                    |               |   |
| 5,414         |                        |                |             |                       |  |                    |               |   |
| 5,971         |                        |                |             |                       |  |                    |               |   |
| 6,000         |                        |                |             |                       |  |                    |               | Permit work.                              |
| 22,000        |                        |                |             |                       |  |                    |               |   |
| 2,000         |                        |                |             |                       |  |                    |               |   |
| 6,078         |                        |                |             |                       |  |                    |               |   |
| 54,000        |                        |                |             |                       |  |                    |               |   |
| 6,000         |                        |                |             |                       |  |                    |               |   |
| 10,000        |                        |                |             |                       |  |                    |               |   |
| 6,400         |                        |                |             |                       |  |                    |               |   |
| 20,000        |                        |                |             |                       |  |                    |               |   |
| 783           | 2.73                   | 2,639.00       |             |                       |  |                    |               |   |





















































Repairs to asphalt pavements to July 1, 1901—Continued.

| Square yards. | Price per square yard. | Original cost. | Resurfaced. |                       | Repairs—average annual cost per square yard. |                    |               | Remarks          |
|---------------|------------------------|----------------|-------------|-----------------------|--|--------------------|---------------|------------------|
|               |                        |                | Year.       | Cost per square yard. | Prior to resurfacing.                        | Since resurfacing. | Current year. |                  |
| 2,000         |                        |                |             | 0                     | 0  | 0                  | \$0.011       | Private expense. |
| 1,146         | \$1.54                 | \$2,560.00     |             | 0                     | 0  | 0                  | 0             |                  |
| 2,313         | 2.00                   | 5,459.00       |             |                       | \$0.011                                      |                    | .023          |                  |
| 8,120         |                        |                |             |                       | .048   |                    | .041          |                  |
| 9,219         | 2.26                   | 21,077.00      |             |                       | .026   |                    | 0             |                  |
| 7,723         | 1.84                   | 14,574.00      |             |                       | .045   |                    | .006          |                  |
| 12,600        | 3.20                   | 40,819.00      | 1888        | \$0.83                | .03  | \$0.0071           |               |                  |
|               |                        |                | 1900        | 1.017                 |  | 0                  | 0             |                  |
|               |                        |                | 1878        | 1.35                  |  | .025               |               |                  |
| 5,411         | 3.20                   | 17,314.00      | 1893        | .742                  |  | .146               |               |                  |
| 2,518         | 2.00                   | 9,553.00       | 1895        | 1.60                  |  | .0014              | .0013         |                  |
| 15,000        |                        |                |             | 0                     |  | .0016              | 0             |                  |
| 2,630         |                        |                |             | 0                     | 0  | 0                  | 0             |                  |
| 1,620         | 2.25                   | 5,079.00       |             | 0                     | 0  | 0                  | 0             |                  |
| 2,555         | 1.63                   | 5,508.00       |             | 0                     | 0  | 0                  | 0             |                  |
| 950           |                        |                |             |                       |  |                    |               | Do.              |
| 20,000        |                        |                |             |                       |  |                    |               |                  |
| 13,000        |                        |                |             |                       |  |                    |               |                  |
| 3,000         |                        |                |             |                       |  |                    |               |                  |
| 4,539         | 2.10                   | 11,937.00      |             | 0                     | 0  | 0                  | 0             |                  |
| 5,058         | 2.00                   | 14,526.00      | 1901        | 1.13                  | .011   | 0                  | 0             |                  |
| 5,135         | 3.00                   | 15,405.00      | 1892        | 1.045                 | .02  | 0                  | 0             |                  |
|               |                        |                | 1900        | .44                   | .045   |                    |               |                  |
| 4,214         | 3.20                   | 13,485.00      | 1889        | .55                   | .023   | .051               |               |                  |
|               |                        |                | 1894        | .893                  |  | .036               | .009          |                  |
| 2,681         | 2.00                   | 5,734.00       |             |                       | .012   |                    | .07           |                  |
| 5,004         | 2.10                   | 14,295.00      |             | 0                     | 0  | 0                  | 0             |                  |
| 1,077         | 2.00                   | 3,647.00       |             | 0                     | 0  | 0                  | .017          |                  |
| 1,037         | 2.00                   |                |             | 0                     | 0  | 0                  | 0             |                  |
| 2,681         | 1.795                  | 6,014.00       |             | 0                     | 0  | 0                  | 0             | Permit work.     |
| 5,800         |                        |                |             | 0                     | 0  | 0                  | 0             |                  |
| 2,800         |                        |                |             | 0                     | 0  | 0                  | 0             |                  |
| 1,000         |                        |                |             | 0                     | 0  | 0                  | 0             |                  |
| 2,600         |                        |                |             |                       |  |                    |               |                  |
| 1,733         |                        |                |             |                       | .0016  |                    | .0006         |                  |
| 9,000         |                        |                |             |                       |  |                    |               |                  |
| 2,000         |                        |                |             |                       |  |                    |               |                  |
| 2,000         |                        |                |             |                       |  |                    |               |                  |
| 2,700         |                        |                |             |                       |  |                    |               |                  |
| 20,000        |                        |                |             |                       |  |                    |               |                  |
| 2,319         | 1.564                  | 6,403.00       |             | 0                     | 0  | 0                  | 0             |                  |
| 2,064         | 1.80                   | 4,299.00       |             | 0                     | 0  | 0                  | 0             |                  |
| 1,600         |                        |                |             |                       |  |                    |               |                  |
| 2,712         | 1.05                   | 4,923.00       |             |                       |  |                    |               |                  |
| 483           |                        |                |             |                       |  |                    |               | Do.              |
| 755           |                        |                |             |                       |  |                    |               |                  |
| 1,099         |                        |                |             | 0                     | 0  | 0                  | 0             |                  |
| 1,185         |                        |                |             |                       |  |                    |               |                  |
| 5,800         |                        |                |             |                       |  |                    |               |                  |
| 1,332         | 1.56                   | 3,317.00       |             | 0                     | 0  | 0                  | 0             |                  |
| 1,558         | 1.63                   | 3,760.00       |             | 0                     | 0  | 0                  | 0             |                  |
| 1,768         | 2.25                   | 5,210.00       |             | 0                     | 0  | 0                  | 0             |                  |
| 5,258         | 2.00                   | 16,805.00      |             | 0                     | 0  | 0                  | 0             |                  |
| 5,146         | 1.68                   | 13,990.00      |             | 0                     | 0  | 0                  | 0             |                  |
| 5,300         |                        |                |             |                       |  |                    |               |                  |
| 6,800         |                        |                |             | 0                     | 0  | 0                  | .023          | Private expense. |
| 48,700        |                        |                |             |                       |  |                    |               |                  |
| 2,713         | 1.76                   | 6,718.00       |             |                       |  |                    |               |                  |
| 4,500         |                        |                |             |                       |  |                    |               |                  |



repairs to asphalt pavements to July 1, 1901—Continued.

|     | Square yards. | Price per square yard.      | Original cost. | Resurfaced. |                       | Repairs—average annual cost per square yard. |                    |               | Remarks.                 |
|-----|---------------|-----------------------------|----------------|-------------|-----------------------|--|--------------------|---------------|--------------------------|
|     |               |                             |                | Year.       | Cost per square yard. | Prior to resurfacing.                        | Since resurfacing. | Current year. |                          |
|     | 2,000         |                             |                |             |                       |  |                    |               |                          |
|     | 3,205         |                             |                |             |                       |  |                    |               |                          |
|     | 11,000        |                             |                |             |                       |  |                    |               |                          |
|     | 1,667         | \$1.78                      | \$3,024.00     |             |                       |  |                    |               |                          |
|     | 2,547         | 2.25                        | 8,456.00       |             |                       | \$0.01                                       |                    | \$0.0038      |                          |
| }   | 4,808         | { 2.25<br>2.18 <sup>1</sup> | 16,737.00      |             | 0                     | 0  | 0                  | 0             |                          |
|     | 3,310         | 2.25                        | 12,762.00      |             |                       | .002   |                    | 0             |                          |
| {   | 1,543         | 1.83                        | 10,742.00      |             | 0                     | 0  | 0                  | 0             |                          |
|     | 2,900         | 1.63                        |                |             |                       |  |                    |               |                          |
|     | 5,700         |                             |                |             |                       |  |                    |               |                          |
|     | 4,226         | 1.94                        | 11,415.00      |             | 0                     | 0  | 0                  | 0             | 4-inch base.             |
|     | 2,371         | 1.93 <sup>1</sup>           | 8,262.00       |             | 0                     | 0  | 0                  | 0             | Do.                      |
|     | 5,333         |                             |                |             |                       |  |                    |               |                          |
|     | 1,957         | 1.77                        | 4,818.00       |             | 0                     | 0  | 0                  | 0             |                          |
|     | 2,128         | 1.53                        | 10,891.00      |             | 0                     | 0  | 0                  | 0             | { 4-inch hydraulic base. |
|     | 2,415         | 1.68                        |                |             |                       |  |                    |               |                          |
|     | 3,849         | 1.78                        | 8,625.00       |             |                       |  |                    |               |                          |
|     | 1,177         | 1.77                        | 3,335.00       |             |                       |  |                    |               |                          |
|     | 4,000         |                             |                |             |                       |  |                    |               |                          |
|     | 1,866         |                             |                |             | 0                     | 0  | 0                  | 0             |                          |
|     | 443           | 1.69                        | 1,439.00       |             | 0                     | 0  | 0                  | 0             |                          |
| {   | 397           | 1.94                        | 19,998.00      |             | 0                     | 0  | 0                  | 0             |                          |
|     | 8,327         | 2.19                        |                |             |                       |  |                    |               |                          |
|     | 7,200         |                             |                |             |                       |  |                    |               |                          |
|     | 1,926         | .75                         | 3,306.00       |             |                       |  |                    |               |                          |
|     | 16,894        |                             | 12,383.00      |             |                       |  |                    |               |                          |
|     | 1,850         | 1.56                        | 4,363.00       |             | 0                     | 0  | 0                  | 0             |                          |
|     | 5,000         |                             |                |             |                       |  |                    |               |                          |
|     | 2,500         |                             |                |             |                       |  |                    |               |                          |
|     | 2,500         |                             |                |             |                       |  |                    |               |                          |
|     | 3,836         | 2.31                        | 11,769.00      |             |                       |  |                    |               |                          |
|     | 4,156         |                             |                | 1880        | \$1.175               | .0096  |                    | .0025         |                          |
|     | 6,536         | 3.20                        | 20,917.00      | 1878        |                       |  | \$0.019            |               |                          |
|     |               |                             |                | 1882        | 1.14                  |  | .027               |               |                          |
|     |               |                             |                | 1894        | .25                   |  | .036               | .012          |                          |
|     |               |                             |                |             |                       |  |                    |               |                          |
|     | 6,150         | 3.20                        | 19,679.00      | 1893        | 1.34                  | .026   | .014               | .011          |                          |
|     | 6,103         | 2.00                        | 16,374.00      |             |                       | .039   |                    | .069          |                          |
|     | 4,854         | .40                         | 5,951.00       |             |                       |  |                    |               |                          |
|     | 338           | 1.78                        | 602.00         |             | 0                     | 0  | 0                  | 0             |                          |
|     | 5,500         |                             |                |             |                       |  |                    |               |                          |
|     | 1,358         | 1.63                        | 3,381.75       |             | 0                     | 0  | 0                  | 0             |                          |
|     | 4,368         | 1.80                        | 11,046.00      |             | 0                     | 0  | 0                  | 0             |                          |
|     | 2,075         |                             |                |             |                       |  |                    |               |                          |
|     | 1,505         | 2.00                        | 4,148.00       |             | 0                     | 0  | 0                  | 0             |                          |
|     | 2,128         | 2.00                        | 8,159.00       |             |                       |  |                    |               |                          |
|     | 7,000         |                             |                |             | 0                     | .014   | 0                  | 0             |                          |
|     | 16,858        |                             | 52,260         |             |                       |  |                    |               |                          |
|     | 3,359         |                             | 11,758         |             |                       |  |                    |               |                          |
|     | 3,526         |                             | 16,846         |             |                       |  |                    |               |                          |
|     | 2,943         |                             | 4,095          |             |                       |  |                    |               |                          |
|     | 3,110         |                             | 4,826          |             |                       |  |                    |               |                          |
|     | 1,781         | 2.25                        | 4,483          |             | 0                     | 0  | 0                  | 0             |                          |
|     | 7,000         |                             |                |             |                       |  |                    |               |                          |
|     | 5,000         |                             |                |             |                       |  |                    |               |                          |
|     | 2,000         |                             |                |             |                       |  |                    |               |                          |
| 2   | 1,749         | 2.00                        |                |             | 0                     | 0  | 0                  | 0             |                          |
| ... | 2,566         |                             |                |             | 0                     | 0  | 0                  | 0             |                          |
| ... | 3,900         |                             |                |             |                       |  |                    |               |                          |
| 1   | 6,000         |                             |                |             |                       |  |                    |               |                          |
| 1   | 6,516         |                             |                |             |                       |  |                    |               |                          |

<sup>1</sup> Eight-inch base.



TABLE D.—Descriptive list of street pavements and suburban roadways,

| Street.                             | From—                      | To—                       | Kind of pavement or roadway. |
|-------------------------------------|----------------------------|---------------------------|------------------------------|
| First, NW .....                     | Maryland avenue .....      | Pennsylvania avenue ..... | Asphalt, H. B. ....          |
| Do .....                            | Pennsylvania avenue .....  | F .....                   | Granite .....                |
| Do .....                            | B .....                    | C .....                   | Asphalt block .....          |
| Do .....                            | do .....                   | do .....                  | Vitrified block .....        |
| Do .....                            | Massachusetts avenue ..... | H .....                   | do .....                     |
| Do .....                            | H .....                    | Defrees .....             | Asphalt .....                |
| Do .....                            | Defrees .....              | I .....                   | Granite .....                |
| Do .....                            | I .....                    | K .....                   | Asphalt, B. B. ....          |
| Do .....                            | K .....                    | Pierce .....              | Asphalt, H. B. ....          |
| Do .....                            | Pierce .....               | New York avenue .....     | do .....                     |
| Do .....                            | New York avenue .....      | O .....                   | do .....                     |
| Do .....                            | O .....                    | P .....                   | do .....                     |
| Do .....                            | Q .....                    | Florida avenue .....      | do .....                     |
| Do .....                            | Florida avenue .....       | S .....                   | Asphalt .....                |
| Do .....                            | S .....                    | W .....                   | do .....                     |
| Do .....                            | W .....                    | Michigan avenue .....     | do .....                     |
| First, E. ....                      | B, North .....             | B, South .....            | do .....                     |
| First, NE .....                     | B .....                    | C .....                   | Asphalt, H. B. ....          |
| Do .....                            | C .....                    | F .....                   | Asphalt, B. B. ....          |
| Do .....                            | F .....                    | L .....                   | Gravel .....                 |
| Do .....                            | Q .....                    | R .....                   | Asphalt, H. B. ....          |
| Do .....                            | R .....                    | Alley .....               | do .....                     |
| First, SE .....                     | B .....                    | C .....                   | Granite .....                |
| Do .....                            | C .....                    | D .....                   | Asphalt block .....          |
| Do .....                            | D .....                    | E .....                   | Asphalt, H. B. ....          |
| Do .....                            | E .....                    | G .....                   | Asphalt block .....          |
| Do .....                            | I .....                    | River .....               | Gravel .....                 |
| First, SW .....                     | Maryland avenue .....      | Virginia avenue .....     | Trap .....                   |
| Do .....                            | Virginia avenue .....      | M .....                   | do .....                     |
| Do .....                            | M .....                    | N .....                   | Rubble .....                 |
| Do .....                            | N .....                    | River .....               | Gravel .....                 |
| Second, NW .....                    | Pennsylvania avenue .....  | Indiana avenue .....      | Granite .....                |
| Do .....                            | Indiana avenue .....       | I .....                   | Asphalt, H. B. ....          |
| Second (Le Droit ave-<br>nue). .... | Florida avenue .....       | W .....                   | do .....                     |
| Second, NE. and SE. ....            | Pennsylvania avenue .....  | Maryland avenue .....     | do .....                     |
| Second, NE .....                    | Maryland avenue .....      | C .....                   | Asphalt block .....          |
| Do .....                            | C .....                    | F .....                   | do .....                     |
| Do .....                            | F .....                    | H .....                   | Asphalt, B. B. ....          |
| Do .....                            | K .....                    | L .....                   | Gravel .....                 |
| Do .....                            | R .....                    | T .....                   | Asphalt, B. B. ....          |
| Second, SE .....                    | Pennsylvania avenue .....  | D .....                   | Asphalt, H. B. ....          |
| Do .....                            | D .....                    | G .....                   | Macadam .....                |
| Do .....                            | Virginia avenue .....      | I .....                   | do .....                     |
| Do .....                            | K .....                    | L .....                   | do .....                     |
| Second, SW .....                    | Maryland avenue .....      | C .....                   | Asphalt, H. B. ....          |
| Do .....                            | C .....                    | Virginia avenue .....     | Asphalt, B. B. ....          |
| Do .....                            | Virginia avenue .....      | F .....                   | Asphalt, H. B. ....          |
| Do .....                            | F .....                    | Delaware avenue .....     | Macadam .....                |
| Third, NW .....                     | Pennsylvania avenue .....  | D .....                   | Granite .....                |
| Do .....                            | Intersection of D. ....    |                           | Asphalt, H. B. ....          |
| Do .....                            | D .....                    | L .....                   | Asphalt, B. B. ....          |
| Do .....                            | L .....                    | New York avenue .....     | Asphalt, H. B. ....          |
| Do .....                            | New Jersey avenue .....    | P .....                   | do .....                     |
| Do .....                            | P .....                    | Q .....                   | do .....                     |
| Do .....                            | Q .....                    | R .....                   | do .....                     |

**with repairs to asphalt pavements to July 1, 1901—Continued.**

| Year<br>laid. | Square<br>yards. | Price<br>per<br>square<br>yard. | Original<br>cost. | Resurfaced. |                                | Repairs—average an-<br>nual cost per square<br>yard. |                            |                       | Remarks.  |
|---------------|------------------|---------------------------------|-------------------|-------------|--------------------------------|--|----------------------------|-----------------------|---|
|               |                  |                                 |                   | Year.       | Cost<br>per<br>square<br>yard. | Prior<br>to re-<br>surfacing.                        | Since<br>resur-<br>facing. | Cur-<br>rent<br>year. |   |
| 1883          | 4,540            | \$2.24                          | \$10,480.00       | 1896        | \$1.40                         | \$0.048  | \$0.17                     | \$0.031               | Macadam base.<br>Four-inch base.<br><br>Laid by property<br>owners.<br>Originally laid with<br>coal tar in 1873.<br>Relaid with new<br>pavement and as-<br>phalt surface in<br>1897. Includes en-<br>trances to Capitol<br>grounds. |
| 1879          | 7,280            | 1.87                            | 15,690.00         |             |                                |  |                            |                       |   |
| 1893          | 475              |                                 |                   |             |                                |  |                            |                       |   |
| 1893          | 577              |                                 |                   |             |                                |  |                            |                       |   |
| 1882          | 1,427            | 2.39                            | 3,519.00          |             |                                |  |                            |                       |   |
| 1877          | 700              | 1.98                            | 1,386.00          |             |                                | .023   |                            | .014                  |   |
| 1883          | 535              | 2.41                            | 1,310.00          |             |                                |  |                            |                       |   |
| 1890          | 1,191            | 2.00                            | 3,028.00          |             |                                | .009   |                            | 0                     |   |
| 1894          | 3,051            | 1.68                            | 7,457.00          |             | 0                              | 0  | 0                          | 0                     |   |
| 1899          | 1,731            | 1.76                            | 4,860.00          |             | 0                              | 0  | 0                          | 0                     |   |
| 1901          | 2,728            | 1.79½                           | 6,687.00          |             | 0                              | 0  | 0                          | 0                     |   |
| 1896          | 1,160            | 1.63                            | 2,172.00          |             | 0                              | 0  | 0                          | 0                     |   |
| 1901          | 1,077            | 1.795                           | 2,451.00          |             |                                |  |                            |                       |   |
| 1892          | 1,898            | 1.20                            | 3,411.00          |             |                                |  |                            | .013                  |   |
| 1896          | 7,385            | 1.94                            | 15,577.00         |             | 0                              | 0  | 0                          | 0                     |   |
| 1893          | 10,432           |                                 |                   |             |                                |  |                            | .003                  |   |
| 1873          | 8,822            |                                 |                   | 1897        |                                |  |                            |                       |   |
| 1881          | 1,987            | 1.85                            | 3,736.00          |             |                                | .004   |                            | .006                  |   |
| 1891          | 5,616            | 2.00                            | 13,995.00         |             |                                | .0005  |                            | .0036                 |   |
|               | 4,500            |                                 |                   |             |                                |  |                            |                       |   |
| 1892          | 2,206            | 2.25                            | 7,358.00          |             | 0                              | 0  | 0                          | 0                     |   |
| 1892          | 538              | 2.25                            | 1,437.00          |             | 0                              | 0  | 0                          | 0                     |   |
| 1890          | 2,152            | 1.81                            | 3,935.00          |             |                                |  |                            |                       |   |
| 1899          | 1,260            | 2.00                            | 2,631.00          |             |                                |  |                            |                       |   |
| 1895          | 2,001            | 1.68                            | 3,960.00          |             |                                | .005   |                            |                       |   |
| 1900          | 1,652            | 1.77                            | 4,351.00          |             |                                |  |                            |                       |   |
|               | 10,200           |                                 |                   |             |                                |  |                            |                       |   |
| 1874          | 6,721            | 3.50                            | 23,524.00         |             |                                |  |                            |                       |   |
| 1876          | 11,198           | 3.50                            | 39,194.00         |             |                                |  |                            |                       |   |
| 1876          | 2,315            | 1.05                            | 2,430.00          |             |                                |  |                            |                       |   |
|               | 13,750           |                                 |                   |             |                                |  |                            |                       |   |
| 1881          | 3,696            | 1.87                            | 7,137.00          |             |                                |  |                            |                       |   |
| 1881          | 10,452           | 2.08½                           | 22,534.00         |             |                                | .044   |                            | .028                  |   |
| 1892          | 6,051            | 2.25                            | 18,454.00         |             | 0                              | 0  | 0                          | 0                     |   |
| 1881          | 4,751            | 2.09                            | 10,589.00         | 1898        | 1.45                           | .028   | .018                       | .028                  |   |
| 1887          | 1,846            | 1.98½                           | 4,787.00          |             |                                |  |                            |                       |   |
| 1894          | 4,323            | 2.00                            | 10,788.00         |             |                                |  |                            |                       |   |
| 1891          | 3,884            | 2.00                            | 7,565.00          |             |                                | .004   |                            | 0                     |   |
|               | 1,068            |                                 |                   |             |                                |  |                            |                       |   |
| 1890          | 4,214            | 2.00                            | 8,702.00          |             | 0                              | 0  | 0                          | 0                     |   |
| 1882          | 4,906            | 2.27                            | 11,372.00         |             |                                | .035   |                            | .154                  |   |
| 1891          | 2,099            | .93                             | 4,835.00          |             |                                |  |                            |                       |   |
| 1892          | 1,206            | .95                             | 2,115.00          |             |                                |  |                            |                       |   |
| 1901          | 1,219            |                                 |                   |             |                                |  |                            |                       |   |
| 1892          | 2,532            | 2.25                            | 10,013.00         |             | 0                              | 0  | 0                          | .006                  |   |
| 1890          | 3,179            | 2.00                            | 12,235.00         |             |                                | .023   |                            | 0                     |   |
| 1891          | 511              | 2.25                            | 2,227.00          |             | 0                              | 0  | 0                          | 0                     |   |
| 1889          | 4,627            | .57                             | 5,171.00          |             |                                |  |                            |                       |   |
| 1890          | 4,231            | 1.72                            | 7,518.00          |             |                                |  |                            |                       |   |
| 1890          | 436              |                                 | 800.00            |             | 0                              | 0  | 0                          | 0                     |   |
| 1875          | 16,359           | 3.00                            | 52,631.00         | { 1883      | 1.42                           | .014   |                            |                       |   |
| 1879          | 2,685            | 1.78                            | 4,779.00          | { 1884      | .08                            |  | .03                        | .024                  |   |
| 1892          | 4,177            | 2.25                            | 12,358.00         |             |                                | .038   |                            | .028                  |   |
| 1899          | 2,077            | 1.80                            | 5,497.00          |             | 0                              | 0  | 0                          | 0                     |   |
| 1900          | 529              | 1.80                            | 1,796.00          |             | 0                              | 0  | 0                          | 0                     |   |







*pairs to asphalt pavements to July 1,*



repairs to asphalt pavements to July 1, 1901—Continued.

|  | Square yards. | Price per square yard. | Original cost. | Resurfaced. |                       | Repairs—average annual cost per square yard. |                    |               | Remarks   |
|--|---------------|------------------------|----------------|-------------|-----------------------|--|--------------------|---------------|---|
|  |               |                        |                | Year.       | Cost per square yard. | Prior to resurfacing.                        | Since resurfacing. | Current year. |   |
|  | 1,500         |                        |                |             |                       |  |                    |               | 4-inch base.  |
|  | 2,508         | \$1.68                 | \$6,269.00     |             | 0                     | 0  | 0                  | 0             |   |
|  | 4,765         | 1.93½                  | 10,493.00      |             | 0                     | 0  | 0                  | 0             |   |
|  | 9,182         | 1.92                   | 17,630.00      |             |                       | \$0.031                                      |                    | \$0.117       |   |
|  | 2,929         | 2.33                   | 6,825.00       |             |                       | .015   |                    | .065          |   |
|  | 480           |                        | 1,071.00       |             | 0                     | 0  | 0                  | 0             | In place of cobble.<br>On cobble base.  |
|  | 1,434         | 1.20                   | 3,158.00       |             |                       | .006   |                    |               |   |
|  | 3,066         | 2.25                   | 7,800.00       |             |                       | .001   |                    | .008          |   |
|  | 3,573         | 1.68                   | 7,459.00       |             | 0                     | 0  | 0                  | 0             |   |
|  | 1,900         |                        |                |             |                       |  |                    |               |   |
|  | 2,260         | 1.91                   | 4,316.00       |             |                       |  |                    |               | In place of coal tar.   |
|  | 3,881         | 2.26                   | 9,004.00       |             | 0                     | 0  | 0                  | 0             |   |
|  |               |                        |                | 1878        | \$0.54                |  | \$0.031            |               |   |
|  |               |                        |                | 1884        | .37                   |  |                    |               |   |
|  |               |                        |                | 1885        | .266                  |  |                    |               |   |
|  | 28,982        | 3.20                   | 94,558.00      | 1886        | .215                  |  |                    |               |   |
|  |               |                        |                | 1887        | .052                  |  | .024               |               |   |
|  |               |                        |                | 1896        | .43                   |  |                    |               |   |
|  |               |                        |                | 1897        | .068                  |  | .043               | .005          |   |
|  | 1,563         | 2.28                   | 3,683.00       |             |                       | .03  |                    | 0             |   |
|  | 6,147         | 1.46                   | 9,513.00       |             |                       | .007   |                    | 0             |   |
|  | 3,371         | 2.30                   | 7,759.00       |             |                       | .02  |                    | .026          | 4-inch base.  |
|  | 3,500         |                        |                |             |                       |  |                    |               |   |
|  | 1,217         | 2.00                   | 4,035.00       |             | 0                     | 0  | 0                  | 0             |   |
|  | 6,712         | 2.00                   | 21,589.00      |             |                       |  |                    |               |   |
|  | 5,781         | 2.00                   | 17,962.00      |             | 0                     | 0  | 0                  | 0             |   |
|  | 2,160         |                        |                |             |                       |  |                    |               | Cobble base.  |
|  | 2,300         |                        |                |             |                       |  |                    |               |   |
|  | 6,073         | .96                    | 12,632.00      |             |                       |  |                    |               |   |
|  | 817           | 1.79½                  | 2,351.00       |             | 0                     | 0  | 0                  | 0             |   |
|  | 1,247         | 1.77                   | 2,130.00       |             |                       |  |                    |               |   |
|  | 1,000         |                        |                |             |                       |  |                    |               |   |
|  | 2,000         |                        |                |             |                       |  |                    |               |   |
|  | 1,454         | 1.20                   | 2,879.00       |             |                       | .003   |                    | 0             |   |
|  | 7,061         |                        | 22,859.00      |             |                       |  |                    |               |   |
|  | 3,103         | 3.20                   | 9,927.00       |             |                       |  |                    |               |   |
|  | 2,487         | 1.75                   | 12,256.00      |             | 0                     | 0  | 0                  | 0             | Laid in 1885, widened 1898; practically new pavement. Roadway widened, granite removed. |
|  | 2,000         | 1.75                   |                |             | 0                     | 0  | 0                  | 0             |   |
|  | 955           | 1.74½                  | 1,775.00       |             |                       | .049   |                    | .009          |   |
|  | 4,828         | 3.00                   | 14,913.00      | 1889        | 1.26                  | .014   | .037               |               |   |
|  | 3,368         | 1.47                   | 5,074.00       | 1891        | .43                   |  | .016               | .056          |   |
|  |               |                        |                |             |                       |  | .017               | .018          |   |
|  | 3,443         | 1.85                   | 6,519.00       |             |                       |  | .009               | .01           |   |
|  | 4,433         | 2.28                   | 10,109.00      |             |                       |  | .043               | .05           |   |
|  | 1,992         | 1.98                   | 6,640.00       | 1901        | 1.00                  | .068   |                    | .041          |   |
|  | 1,948         | 2.25                   | 6,344.00       |             | 0                     | 0  | 0                  | 0             |   |
|  | 2,588         | 1.68                   | 6,075.00       |             | 0                     | 0  | 0                  | 0             | 4-inch base.  |
|  | 4,683         | 1.80                   | 12,291.00      |             | 0                     | 0  | 0                  | 0             |   |
|  | 4,208         | 1.77                   | 10,972.00      |             |                       |  |                    |               |   |
|  | 2,670         |                        |                |             |                       |  |                    |               |   |
|  | 2,915         | 1.93½                  |                |             | 0                     | 0  | 0                  | 0             |   |
|  | 2,061         | 2.00                   |                |             | 0                     | 0  | 0                  | 0             |   |
|  | 2,160         |                        |                |             |                       |  |                    |               |   |
|  | 4,748         | .93                    | 8,085.00       |             |                       |  |                    |               |   |
|  | 788           | 2.00                   | 2,489.00       |             |                       |  |                    |               |   |
|  | 4,478         | 1.84                   | 11,449.00      |             |                       |  |                    |               |   |
|  | 449           | 1.80                   | 1,017.00       |             |                       |  |                    |               | In place of cobble.   |
|  | 1,500         |                        |                |             |                       |  |                    |               |   |
|  | 2,411         | 2.10                   | 5,544.00       |             |                       |  |                    |               |   |
|  | 2,589         | .70                    | 1,812.00       |             |                       |  |                    |               |   |
|  | 3,854         | 1.55                   | 8,408.00       |             | 0                     | 0  | 0                  | 0             |   |
|  | 2,500         | 1.78                   | 4,451.00       | 1891        | 1.736                 | .032   | .012               | 0             |   |







TABLE D.—*Descriptive list of street pavements and suburban roadways,*

| Street.                                       | From—                                  | To—                                    | Kind of pavement or roadway. |
|---|--|--|------------------------------|
| Fourteenth, NW .....                          | F .....                                | New York avenue .....                  | Coal tar .....               |
| Do .....                                      | New York avenue .....                  | H .....                                | do .....                     |
| Fourteenth, NW. (east side) .....             | H .....                                | Florida avenue .....                   | Asphalt, H. B. ....          |
| Fourteenth, NW. (west side) .....             | H .....                                | M .....                                | do .....                     |
| Do .....                                      | M .....                                | Florida avenue .....                   | do .....                     |
| Fourteenth, NW. (east side) .....             | Florida avenue .....                   | Clifton .....                          | do .....                     |
| Do .....                                      | Clifton .....                          | Roanoke .....                          | do .....                     |
| Fourteenth, NW. (west side) .....             | Florida avenue .....                   | Euclid .....                           | do .....                     |
| Fourteenth, NW .....                          | Yale, northward.<br>Extension to Park. |  | do .....                     |
| Do .....                                      |  |  | do .....                     |
| Fourteenth, NW. (east side) .....             | Kenyon .....                           | Park .....                             | do .....                     |
| Fourteenth Street road .....                  |  |  |                              |
| Fourteenth, NE .....                          | East Capitol .....                     | E .....                                | Gravel .....                 |
| Do .....                                      | Maryland avenue .....                  | E .....                                | Macadam .....                |
| Fourteenth, SE .....                          | East Capitol .....                     | Pennsylvania avenue .....              | Gravel .....                 |
| Fourteenth, SW .....                          | B, north .....                         | B, south .....                         | Belgian .....                |
| Do .....                                      | B, south .....                         | Alley south of B .....                 | Asphalt, H. B. ....          |
| Do .....                                      | Alley south of B .....                 | Maryland avenue .....                  | Granite .....                |
| Fifteenth, NW .....                           | B .....                                | E .....                                | Asphalt .....                |
| Do .....                                      | E .....                                | Pennsylvania avenue .....              | Asphalt, H. B. ....          |
| Do .....                                      | Pennsylvania avenue .....              | New York avenue .....                  | do .....                     |
| Do .....                                      | New York avenue .....                  | Vermont avenue .....                   | Coal tar .....               |
| Do .....                                      | I .....                                | K .....                                | do .....                     |
| Do .....                                      | K .....                                | Rhode Island avenue .....              | Asphalt, H. B. ....          |
| Do .....                                      | Rhode Island avenue .....              | S .....                                | Coal tar .....               |
| Do .....                                      | S .....                                | U .....                                | Asphalt, H. B. ....          |
| Do .....                                      | U .....                                | V .....                                | do .....                     |
| Fifteenth, NE .....                           | East Capitol .....                     | E .....                                | Gravel .....                 |
| Fifteenth, SE .....                           | do .....                               | Pennsylvania avenue .....              | do .....                     |
| Fifteen-and-a-half, NW. (Madison place) ..... | Pennsylvania avenue .....              | H .....                                | Coal tar .....               |
| Sixteenth, NW .....                           | H .....                                | Scott square .....                     | Asphalt, H. B. ....          |
| Do .....                                      | Scott square .....                     | R .....                                | do .....                     |
| Do .....                                      | R .....                                | 156 feet south of Florida avenue ..... | do .....                     |
| Do .....                                      | 156 feet south of Florida avenue ..... | Morris .....                           | do .....                     |
| Do .....                                      | Morris .....                           | Superior .....                         | Macadam .....                |
| Do .....                                      | Kenesaw .....                          | Park .....                             | do .....                     |
| Sixteen-and-a-half, NW. (Jackson place) ..... | Pennsylvania avenue .....              | H .....                                | Coal tar .....               |
| Seventeenth, NW .....                         | B .....                                | E .....                                | do .....                     |
| Do .....                                      | E .....                                | New York avenue .....                  | Asphalt, H. B. ....          |
| Do .....                                      | New York avenue .....                  | Pennsylvania avenue .....              | Asphalt, B. B. ....          |
| Do .....                                      | Pennsylvania avenue .....              | I .....                                | Coal tar .....               |
| Do .....                                      | I .....                                | Massachusetts avenue .....             | do .....                     |
| Do .....                                      | Massachusetts avenue .....             | P .....                                | do .....                     |
| Do .....                                      | P .....                                | Q .....                                | do .....                     |
| Do .....                                      | Q .....                                | R .....                                | Asphalt, B. B. ....          |
| Do .....                                      | R .....                                | T .....                                | do .....                     |
| Do .....                                      | T .....                                | Florida avenue .....                   | Gravel .....                 |
| Do .....                                      | Grant .....                            | Lowell .....                           | Macadam .....                |
| Eighteenth, NW .....                          | Virginia avenue .....                  | D .....                                | do .....                     |
| Do .....                                      | E .....                                | New York avenue .....                  | Coal tar .....               |





pairs to asphalt pavements to July 1, 1901—Continued.

| Square yards. | Price per square yard. | Original cost. | Resurfaced. |                               | Repairs—average annual cost per square yard. |                              |               | Remarks.                     |           |  |
|---------------|------------------------|----------------|-------------|-------------------------------|--|------------------------------|---------------|------------------------------|-----------|--|
|               |                        |                | Year.       | Cost per square yard.         | Prior to resurfacing.                        | Since resurfacing.           | Current year. |                              |           |  |
| 4,895         | \$2.05                 | \$10,466.00    | 1880        | \$1.15                        | \$.021                                       | \$.024                       | \$.0340       | In place of bituminous base. |           |  |
| 4,515         | 3.20                   | 14,448.00      |             |                               |  |                              |               |                              |           |  |
| 1,431         | 2.10                   | 3,286.00       |             |                               |  |                              |               |                              |           |  |
|               |                        |                |             |                               |  |                              |               |                              |           |  |
| 7,584         | 3.20                   | 24,269.00      | {           | 1.54<br>.466<br>.29<br>1.08   |  | .018<br>.032<br>.109<br>.018 | .018          |                              | Widening. |  |
|               |                        |                |             |                               |  |                              |               |                              |           |  |
|               |                        |                |             |                               |  |                              |               |                              |           |  |
|               |                        |                |             |                               |  |                              |               |                              |           |  |
| 1,764         |                        | 4,600.00       |             |                               |  |                              |               |                              |           |  |
| 3,130         | 2.25                   | 10,796.00      |             | 0                             | 0  | 0                            |               |                              |           |  |
| 3,623         | 2.25                   | 12,333.00      |             | 0                             | 0  | 0                            | 0             |                              |           |  |
| 3,206         | 2.00                   | 6,413.00       |             |                               | .021   |                              | .016          |                              |           |  |
| 4,406         | 1.58                   | 9,514.00       |             | 0                             | 0  | 0                            | 0             |                              |           |  |
| 227           | 1.68                   |                |             |                               |  |                              |               |                              |           |  |
| 3,000         |                        |                |             |                               |  |                              |               |                              |           |  |
| 3,154         |                        |                |             |                               |  |                              |               |                              |           |  |
| 6,421         | 3.20                   | 20,547.00      | 1878        | 1.50                          |  | .011                         | .028          |                              |           |  |
| 3,170         | 1.94                   | 6,709.00       |             |                               |  |                              |               |                              |           |  |
| 3,726         | 2.894                  | 8,915.00       |             |                               |  |                              |               |                              |           |  |
| 1,894         | 2.58                   | 4,949.00       |             |                               |  |                              |               |                              |           |  |
| 2,409         | 2.06                   | 5,198.00       |             |                               | .021   |                              | .086          |                              |           |  |
| 7,598         | 3.20                   | 24,314.00      | {           | 1.20                          |  | .01<br>.027<br>.016          | 0<br>0<br>0   |                              |           |  |
|               |                        |                |             |                               |  |                              |               |                              |           |  |
|               |                        |                |             |                               |  |                              |               |                              |           |  |
| 5,274         |                        |                |             | 0                             | 0  | 0                            | 0             |                              |           |  |
| 1,066         |                        |                |             | 0                             | 0  | 0                            | 0             |                              |           |  |
| 2,483         |                        |                |             |                               |  |                              |               |                              |           |  |
| 5,579         | 3.20                   | 17,853.00      | {           | 1.55<br>1.43                  |  | .019<br>.077                 | .152<br>0     | Cobble base.<br>Permit work. |           |  |
| 981           | 1.46                   | 1,486.00       |             |                               |  |                              |               |                              |           |  |
| 1,349         | 1.92                   | 2,707.00       |             |                               | .022   |                              | 0             |                              |           |  |
|               |                        |                | {           | .783<br>.242<br>.332<br>1.385 | .015   | .058                         | .001<br>0     |                              |           |  |
| 8,201         | 3.20                   | 24,243.00      |             |                               |  |                              |               |                              |           |  |
|               |                        |                |             |                               |  |                              |               |                              |           |  |
|               |                        |                |             |                               |  |                              |               |                              |           |  |
| 2,167         | 3.20                   | 6,934.00       |             |                               |  | .053                         | 0             |                              |           |  |
| 1,995         | 1.20                   | 5,607.00       |             | 0                             | 0  | 0                            | 0             |                              |           |  |
| 900           | .70                    | 630.00         |             |                               |  |                              |               |                              |           |  |
| 845           | 1.77                   |                |             |                               |  |                              |               |                              |           |  |
| 1,460         |                        |                |             |                               |  |                              |               |                              |           |  |
| 6,101         | 3.20                   | 19,524.00      | {           | 1.57<br>1.57                  |  | .022<br>.031                 | .097          |                              |           |  |
|               |                        |                |             |                               |  |                              |               |                              |           |  |
| 1,395         | 1.93                   | 2,816.00       |             |                               |  |                              |               | Cobble base.                 |           |  |
| 10,892        | 3.20                   | 34,854.00      | 1891        | 1.21                          | .019   |                              | .015          |                              |           |  |
| 956           |                        |                |             |                               |  |                              |               |                              |           |  |
| 968           | 1.98                   | 2,708.00       |             |                               | .052   |                              | .128          |                              |           |  |
| 1,483         | 2.00                   | 5,190.00       |             |                               | .008   |                              | 0             |                              |           |  |
| 3,572         |                        |                |             |                               |  |                              |               |                              |           |  |
| 884           | 1.76                   | 2,215.00       |             | 0                             | 0  | 0                            | 0             |                              |           |  |
| 1,406         | 1.20                   | 3,532.00       |             | 0                             | 0  | 0                            | 0             |                              |           |  |
| 4,641         | 3.20                   | 14,851.00      | {           | .907                          | .02  | .05<br>0                     | 0<br>0        |                              |           |  |
| 2,852         | 2.25                   | 6,720.00       |             |                               |  |                              |               |                              |           |  |
|               |                        |                |             |                               | .015   |                              | .023          | 4-inch base.<br>Do.          |           |  |
| 3,894         | 2.00                   |                |             |                               | .005   |                              | .006          |                              |           |  |
| 1,586         | 2.00                   | 4,862.00       |             |                               | .014   |                              | .014          |                              |           |  |
| 2,668         | 1.94                   | 6,483.00       |             | 0                             | 0  | 0                            | 0             |                              |           |  |
| 2,128         | 1.94                   | 4,500.00       |             | 0                             | 0  | 0                            | 0             |                              |           |  |
| 4,050         |                        |                |             |                               |  |                              |               |                              |           |  |
| 1,814         | 1.78                   | 4,206.00       |             | 0                             | 0  | 0                            | 0             | Cobble base.                 |           |  |
| 3,642         | .70                    | 2,549.00       |             |                               |  |                              |               |                              |           |  |
| 1,425         | 1.20                   | 3,347.00       |             | 0                             | 0  | 0                            | 0             |                              |           |  |
| 587           | 2.10                   | 1,386.00       |             |                               |  |                              |               |                              |           |  |
| 1,800         | 1.77                   | 4,309.00       |             | 0                             | 0  | 0                            | 0             |                              |           |  |
|               |                        |                |             |                               |  |                              |               | In place of asphalt block.   |           |  |

TABLE D.—*Descriptive list of street pavements and suburban roads*

| Street.            | From—                         | To—                           | Kind of pavement<br>or roadway |
|--------------------|-------------------------------|-------------------------------|--------------------------------|
| Twenty-fourth, NW  | G                             | Pennsylvania avenue           | Cobble                         |
| Do                 | Pennsylvania avenue           | M                             | Asphalt, H. B.                 |
| Do                 | Emporia                       | Frankfort                     | Macadam                        |
| Twenty-fifth, NW   | H                             | K                             | Asphalt, H. B.                 |
| Do                 | K                             | Pennsylvania avenue           | Asphalt, B. B.                 |
| Do                 | Pennsylvania avenue           | M                             | do                             |
| Twenty-sixth, NW   | G                             | K                             | Cobble                         |
| Do                 | K                             | Pennsylvania avenue           | Granite                        |
| Do                 | Pennsylvania avenue           | M                             | Coal tar                       |
| Twenty-seventh, NW | M                             | P                             | Macadam                        |
| Twenty-eighth, NW  | M                             | Dunbarton                     | Asphalt                        |
| Do                 | Dunbarton                     | P                             |                                |
| Do                 | P                             | Q                             | Asphalt, B. B.                 |
| Do                 | Q                             | U                             | Macadam                        |
| Twenty-ninth, NW   | K                             | M                             | Cobble                         |
| Do                 | M                             | N                             | Granite                        |
| Do                 | N                             | P                             | Asphalt                        |
| Do                 | P                             | Q                             | Asphalt, B. B.                 |
| Do                 | Q                             | U                             | Macadam                        |
| Thirtieth, NW      | Virginia avenue               | K                             | Asphalt, H. B.                 |
| Do                 | K                             | Chesapeake and Ohio<br>Canal. | Cobble                         |
| Do                 | Chesapeake and Ohio<br>Canal. | M                             | Asphalt, H. B.                 |
| Do                 | M                             | N                             | Granite                        |
| Do                 | N                             | P                             | Asphalt, H. B.                 |
| Do                 | P                             | Q                             | Asphalt, B. B.                 |
| Do                 | Q                             | U                             | Granite                        |
| Thirty-first, NW   | K                             | M                             | Coal tar                       |
| Do                 | M                             | N                             | Granite                        |
| Do                 | N                             | P                             | Asphalt                        |
| Do                 | P                             | U                             | Asphalt, H. B.<br>Granite      |
| Thirty-second, NW  | K                             | M                             | Cobble                         |
| Do                 | M                             | P                             | Granite                        |
| Do                 | M                             | N                             | do                             |
| Do                 | P                             | Thirty-fourth                 | Cobble                         |
| Do                 | Thirty-fourth                 | Thirty-fifth                  | Macadam                        |
| Do                 | Thirty-fifth                  | Tunlaw road                   | Granite                        |
| Thirty-third, NW   | K                             | M                             | Cobble                         |
| Do                 | M                             | N                             | Asphalt, B. B.                 |
| Do                 | N                             | P                             | Asphalt, H. B.                 |
| Do                 | P                             | Thirty-second                 | Asphalt, B. B.                 |
| Thirty-fourth      | M                             | N                             | do                             |
| Do                 | N                             | P                             | do                             |
| Do                 | P                             | R                             | do                             |
| Do                 | R                             | Thirty-second                 | Macadam                        |
| Thirty-fifth       | M                             | Prospect                      | Cobble                         |
| Do                 | Prospect                      | N                             | Asphalt, B. B.                 |
| Do                 | N                             | P                             | Coal tar                       |
| Do                 | P                             | Q                             | do                             |
| Do                 | Q                             | U                             | Asphalt, B. B.                 |
| Do                 | U                             | Tenallytown road              | Asphalt, H. B.                 |
| Thirty-sixth       | Prospect                      | O                             | Asphalt, B. B.                 |
| Do                 | O                             | P                             | Asphalt, H. B.                 |

NOTE.—H. B. = hydraulic base; B. B. = bituminous base.

repairs to asphalt pavements to July 1, 1901—Continued.

| r | Square yards. | Price per square yard. | Original cost. | Resurfaced. |                       | Repairs—average annual cost per square yard. |                    |               | Remarks.                      |
|---|---------------|------------------------|----------------|-------------|-----------------------|--|--------------------|---------------|-------------------------------|
|   |               |                        |                | Year.       | Cost per square yard. | Prior to resurfacing.                        | Since resurfacing. | Current year. |                               |
|   | 5,192         | \$0.70                 | \$3,635.00     |             |                       |  |                    |               |                               |
|   | 2,456         | 1.78                   | 6,418.00       |             | 0                     | 0  | 0                  | 0             |                               |
|   | 1,200         |                        |                |             |                       |  |                    |               |                               |
|   | 3,739         | 1.54                   | 9,129.00       |             | 0                     | 0  | 0                  | 0             |                               |
|   | 1,163         | 2.00                   | 4,146.00       |             | 0                     | \$0.008                                      | 0                  | \$0.008       |                               |
|   | 1,693         | 2.00                   | 5,972.00       |             | 0                     | .006   | 0                  | .02           |                               |
|   | 5,042         | .70                    | 3,529.00       |             |                       |  |                    |               |                               |
|   | 1,680         | 2.48                   | 4,296.00       |             |                       |  |                    |               |                               |
|   | 919           | 2.67                   | 2,454.00       |             |                       | .023   |                    | .022          |                               |
|   | 4,100         |                        | 5,887.00       |             |                       |  |                    |               |                               |
|   | 2,879         | 1.10                   | 11,260.00      |             | 0                     | 0  | 0                  | 0             | {Cobble base.<br>4-inch base. |
|   | 1,551         | 1.96                   |                |             | 0                     | 0  | 0                  | 0             |                               |
|   | 1,474         |                        | 3,737.00       |             | 0                     | 0  | 0                  | 0             |                               |
|   | 2,850         |                        |                |             |                       |  |                    |               |                               |
|   | 2,919         |                        | 1,080.00       |             |                       |  |                    |               |                               |
|   | 1,885         | 2.46                   | 4,727.00       |             |                       |  |                    |               |                               |
|   | 2,966         |                        |                |             | 0                     | 0  | 0                  | 0             | On asphalt block.             |
|   | 1,261         | 2.00                   | 3,361.00       |             | 0                     | 0  | 0                  | 0             |                               |
|   | 2,300         |                        |                |             |                       |  |                    |               |                               |
|   | 1,617         | .70                    | 1,132.00       |             |                       |  |                    |               |                               |
|   | 1,116         | 1.76                   | 2,651.00       |             | 0                     | 0  | 0                  | 0             |                               |
|   | 2,121         | 2.15                   | 4,425.00       |             |                       |  |                    |               |                               |
|   | 2,962         | 2.23                   | 7,961.00       |             |                       | .045   |                    | .054          |                               |
|   | 1,282         | 2.00                   | 3,515.00       |             |                       | .002   |                    | .002          |                               |
|   | 2,746         |                        | 10,204.00      |             |                       |  |                    |               |                               |
|   | 1,209         | 1.98                   | 5,514.00       |             |                       | .011   |                    | 0             | Do                            |
|   | 1,742         | 1.81                   | 3,562.00       |             |                       |  |                    |               |                               |
|   | 8,888         |                        | 4,312.00       |             |                       |  |                    |               |                               |
|   | 1,862         | 2.26                   |                |             |                       |  |                    |               |                               |
|   | 3,285         |                        |                |             |                       |  |                    |               |                               |
|   | 3,000         |                        |                |             |                       |  |                    |               |                               |
|   | 6,202         | 2.15                   | 13,095.00      |             |                       |  |                    |               | Widening.                     |
|   | 561           |                        | 2,620.00       |             |                       |  |                    |               |                               |
|   | 8,500         |                        |                |             |                       |  |                    |               |                               |
|   | 3,500         |                        |                |             |                       |  |                    |               |                               |
|   | 6,076         |                        | 24,075.00      |             |                       |  |                    |               |                               |
|   | 1,580         | 2.00                   | 5,800.00       |             | 0                     | 0  | 0                  | 0             |                               |
|   | 2,050         | 2.27                   | 4,745.00       |             |                       | 0.75   |                    | .088          |                               |
|   | 4,675         | 2.00                   | 9,764.00       |             |                       | .0008  |                    |               |                               |
|   | 1,660         | 2.00                   | 4,958.00       |             | 0                     | 0  | 0                  |               |                               |
|   | 2,109         | 2.00                   | 7,927.00       |             | 0                     | 0  | 0                  | 0             |                               |
|   | 2,264         | 2.00                   | 8,494.00       |             | 0                     | 0  | 0                  | 0             |                               |
|   | 6,570         |                        | 8,984.00       |             |                       |  |                    |               |                               |
|   | 850           |                        |                |             |                       |  |                    |               |                               |
|   | 1,017         | 2.00                   | 3,346.00       |             | 0                     | 0  | 0                  | 0             |                               |
|   | 2,929         | 1.97                   | 8,164.00       |             |                       | .01  |                    | .003          |                               |
|   | 1,558         | 1.97                   | 5,305.00       | 1901        | \$1.88                | .066   |                    | 0             |                               |
|   | 5,749         | 2.00                   | 18,563.00      |             |                       | .004   |                    | .032          |                               |
|   | 6,009         | 2.25                   | 18,242.00      |             | 0                     | 0  | 0                  | 0             |                               |
|   | 2,368         | 2.00                   | 7,994.00       |             | 0                     | 0  | 0                  | 0             |                               |
|   | 707           | 1.78                   | 2,063.00       |             | 0                     | 0  | 0                  | 0             |                               |





pairs to asphalt pavements to July 1, 1901—Continued.

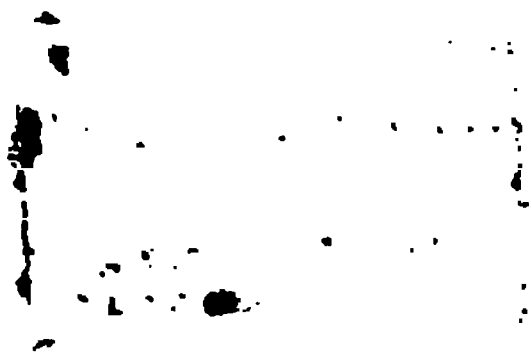
| Square yards. | Price per square yard. | Original cost. | Resurfaced. |                       | Repairs—average annual cost per square yard. |                    |               | Remarks.                      |
|---------------|------------------------|----------------|-------------|-----------------------|--|--------------------|---------------|-------------------------------|
|               |                        |                | Year.       | Cost per square yard. | Prior to resurfacing.                        | Since resurfacing. | Current year. |                               |
| 5,192         | \$0.70                 | \$3,635.00     | -----       | -----                 | -----  | -----              | -----         |                               |
| 2,456         | 1.78                   | 6,418.00       | -----       | 0                     | 0  | 0                  | 0             |                               |
| 1,200         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         |                               |
| 3,739         | 1.54                   | 9,129.00       | -----       | 0                     | 0  | 0                  | 0             |                               |
| 1,163         | 2.00                   | 4,146.00       | -----       | 0                     | \$0.008                                      | 0                  | \$0.088       |                               |
| 1,693         | 2.00                   | 5,972.00       | -----       | 0                     | .006   | 0                  | .02           |                               |
| 5,042         | .70                    | 3,529.00       | -----       | -----                 | -----  | -----              | -----         |                               |
| 1,680         | 2.48                   | 4,296.00       | -----       | -----                 | -----  | -----              | -----         |                               |
| 919           | 2.67                   | 2,454.00       | -----       | -----                 | .023   | -----              | .022          |                               |
| 4,100         | -----                  | 5,887.00       | -----       | -----                 | -----  | -----              | -----         |                               |
| 2,879         | 1.10                   | 11,260.00      | -----       | 0                     | 0  | 0                  | 0             | {Cobble base.<br>4-inch base. |
| 1,551         | 1.96                   |                | -----       | 0                     | 0  | 0                  | 0             |                               |
| 1,474         | -----                  | 3,737.00       | -----       | 0                     | 0  | 0                  | 0             | On asphalt block.             |
| 2,350         | -----                  | 1,080.00       | -----       | -----                 | -----  | -----              | -----         |                               |
| 2,919         | -----                  | 4,727.00       | -----       | -----                 | -----  | -----              | -----         |                               |
| 1,885         | 2.46                   | -----          | -----       | 0                     | 0  | 0                  | 0             |                               |
| 2,966         | -----                  | -----          | -----       | 0                     | 0  | 0                  | 0             |                               |
| 1,261         | 2.00                   | 3,381.00       | -----       | 0                     | 0  | 0                  | 0             | Do                            |
| 2,300         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         |                               |
| 1,617         | .70                    | 1,132.00       | -----       | -----                 | -----  | -----              | -----         |                               |
| 1,116         | 1.76                   | 2,651.00       | -----       | 0                     | 0  | 0                  | 0             |                               |
| 2,121         | 2.15                   | 4,425.00       | -----       | -----                 | -----  | -----              | -----         |                               |
| 2,932         | 2.23                   | 7,961.00       | -----       | -----                 | .045   | -----              | .054          |                               |
| 1,282         | 2.00                   | 3,515.00       | -----       | -----                 | .002   | -----              | .009          |                               |
| 2,746         | -----                  | 10,204.00      | -----       | -----                 | -----  | -----              | -----         |                               |
| 1,209         | 1.96                   | 5,514.00       | -----       | -----                 | .011   | -----              | 0             |                               |
| 1,742         | 1.81                   | 3,562.00       | -----       | -----                 | -----  | -----              | -----         |                               |
| 3,838         | -----                  | 4,312.00       | -----       | -----                 | -----  | -----              | -----         | Widening.                     |
| 1,862         | 2.26                   | -----          | -----       | -----                 | -----  | -----              | -----         |                               |
| 3,285         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         |                               |
| 3,000         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         |                               |
| 6,202         | 2.15                   | 13,095.00      | -----       | -----                 | -----  | -----              | -----         |                               |
| 561           | -----                  | 2,620.00       | -----       | -----                 | -----  | -----              | -----         |                               |
| 8,500         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         |                               |
| 3,500         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         |                               |
| 6,076         | -----                  | 24,075.00      | -----       | -----                 | -----  | -----              | -----         |                               |
| 1,580         | 2.00                   | 5,800.00       | -----       | 0                     | 0  | 0                  | 0             |                               |
| 2,050         | 2.27                   | 4,745.00       | -----       | -----                 | 0.75   | -----              | .088          |                               |
| 4,675         | 2.00                   | 9,764.00       | -----       | -----                 | .0008  | -----              | -----         |                               |
| 1,660         | 2.00                   | 4,958.00       | -----       | 0                     | 0  | 0                  | -----         |                               |
| 2,109         | 2.00                   | 7,927.00       | -----       | 0                     | 0  | 0                  | 0             |                               |
| 2,264         | 2.00                   | 8,494.00       | -----       | 0                     | 0  | 0                  | 0             |                               |
| 6,570         | -----                  | 8,984.00       | -----       | -----                 | -----  | -----              | -----         |                               |
| 850           | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         |                               |
| 1,017         | 2.00                   | 3,348.00       | -----       | 0                     | 0  | 0                  | 0             |                               |
| 2,929         | 1.97                   | 8,164.00       | -----       | -----                 | .01  | -----              | .003          |                               |
| 1,558         | 1.97                   | 5,805.00       | 1901        | \$1.86                | .066   | -----              | 0             |                               |
| 5,749         | 2.00                   | 18,563.00      | -----       | -----                 | .004   | -----              | .032          |                               |
| 6,009         | 2.25                   | 18,242.00      | -----       | 0                     | 0  | 0                  | 0             |                               |
| 2,368         | 2.00                   | 7,994.00       | -----       | 0                     | 0  | 0                  | 0             |                               |
| 707           | 1.78                   | 2,063.00       | -----       | 0                     | 0  | 0                  | 0             |                               |

TABLE F.—Repairs to concrete and asphalt pavements for year ending June 30, 1901.

| Street.   | From—                       | To—        | New 6-inch hydraulic base. | Resur-facing.     | Vitrified block gutters. | Contract work. | Extra work. | Material. | Total cost. | Original pavement.        | Year laid. | Original contractor.      |
|---|-----------------------------|------------|----------------------------|-------------------|--------------------------|----------------|-------------|-----------|-------------|---------------------------|------------|---------------------------|
| Intersection La. avenue, 7th and C NW                         |                             |            | Sq. yds. 2,702.16          | Sq. yds. 1,984.90 | Sq. yds. 383.67          | \$0,008.98     | \$515.52    | \$703.19  | \$7,287.69  | Asphalt block             | 1880       | McKnight & Burne.         |
| H, NW   | 17th                        | 18th       |                            |                   | 313.10                   | 4,155.38       |             | 248.34    | 4,453.72    | Asphalt                   | 1884       | Barber Asphalt Paving Co. |
| 3d, NW  | B                           | Va. ave.   |                            | 5,327.94          | 650.97                   | 10,793.78      |             | 612.61    | 11,408.33   | do                        | 1884       | Do.                       |
| 6th, NW   | N. Y. ave.                  | Mass. ave. |                            | 2,963.18          | 372.62                   | 5,963.64       |             | 384.48    | 6,347.52    | do                        | 1880       | J. S. Baldwin.            |
| 35th, NW  | P                           | 2d         |                            | 1,487.55          | 185.73                   | 2,722.28       |             | 180.31    | 2,902.59    | Coal tar                  | 1887       | Barber Asphalt Paving Co. |
| A, NE   | 4th                         | 7th        |                            | 3,236.68          | 555.26                   | 6,108.56       |             | 529.07    | 6,637.63    | do                        | 1887       | Do.                       |
| P, NW   | 17th                        | 18th       |                            | 3,326.82          | 433.56                   | 6,553.56       | 24.88       | 391.56    | 6,969.50    | Asphalt                   | 1884       | Do.                       |
| 14th, NW  | T                           | Fla. ave   |                            | 4,264.76          | 396.58                   | 8,723.77       |             | 392.06    | 9,115.83    | do                        | 1882       | A. L. Barber.             |
| (west side).  |                             |            |                            |                   |                          |                |             |           |             |                           |            |                           |
| 5th, NW   | F                           | (+)        | 127.94                     | 221.75            | 72.27                    | 866.46         | 46.35       | 69.62     | 982.43      | do                        | 1885       | Barber Asphalt Paving Co. |
| (widening).   |                             |            |                            |                   |                          |                |             |           |             |                           |            |                           |
| 23d, NW   | L                           | M          | 1,429.14                   | 441.75            | 300.40                   | 4,015.59       |             | 293.45    | 4,309.04    | Asphalt block             | 1886       | P. Maloney.               |
| G, NW. (widening).  | 5th                         | 6th        | 312.91                     | 580.34            | 182.13                   | 2,251.42       | 22.67       | 153.77    | 2,427.86    | Concrete                  | 1872       | Abbott Paving Co.         |
| 14th, NW  | Fla. ave                    | Euclid     | 2,397.70                   |                   | 324.94                   | 5,423.10       | 918.71      | 306.31    | 6,648.12    | Asphalt, 4-inch base.     | 1889       | Barber Asphalt Paving Co. |
| N, NW   | 21st.                       | N. H. ave  |                            | 643.41            | 114.00                   | 1,385.90       | 27.54       | 162.93    | 1,576.37    | Concrete                  | 1875       | W. C. Murdock.            |
| F, NE   | N. Cap                      | Del. ave   |                            | 3,004.36          | 381.18                   | 6,259.93       | 39.35       | 391.86    | 6,691.14    | Asphalt, bituminous base. | 1883       | H. L. Cranford.           |
| F, NE   | Del. ave                    | 3d         | 4,281.62                   |                   | 611.37                   | 6,606.64       | 76.13       | 645.58    | 7,418.35    | do                        | 1888       | Do.                       |
| S, NW   | 9th                         | 11th       |                            | 2,782.74          | 421.68                   | 5,237.00       | 83.45       | 420.46    | 5,743.94    | Coal tar                  | 1889       | Do.                       |
| N, NW   | 16th                        | 17th       | 1,594.34                   | 103.18            | 227.81                   | 3,852.45       | 163.65      | 436.87    | 4,452.97    | Concrete                  | 1873       | C. E. Evans.              |
| 10th, NW  | R                           | S          |                            | 1,022.81          | 157.08                   | 1,825.58       |             | 165.51    | 1,991.09    | Coal tar                  | 1907       | H. L. Cranford.           |
| B, NW   | Intersections 15th and 16th |            | 2,000.92                   |                   | 130.74                   | 5,340.04       | 630.32      | 283.97    | 6,254.33    | Rubble                    | 1874       | John O. Evans.            |
| Total   |                             |            | 14,945.05                  | 31,362.20         | 6,165.10                 | 94,243.40      | 2,551.10    | 0,821.95  | 103,616.45  |                           |            |                           |
| Salaries and inspection                                       |                             |            |                            |                   |                          |                |             |           | 12,891.53   |                           |            |                           |
| Minor repairs:  |                             |            |                            |                   |                          |                |             |           | 116,507.98  |                           |            |                           |
| 48,224.18 cubic feet asphalt surface laid, at 60 cents        |                             |            |                            |                   |                          |                |             |           | 28,934.50   |                           |            |                           |
| 35,917.68 cubic feet asphalt border laid, at 31 cents         |                             |            |                            |                   |                          |                |             |           | 11,134.48   |                           |            |                           |
| 48,230 cubic yards bituminous base, at \$1                    |                             |            |                            |                   |                          |                |             |           | 144.60      |                           |            |                           |
| 2 manholes adjusted to grade, at \$1.40                       |                             |            |                            |                   |                          |                |             |           | 8.80        |                           |            |                           |
| 222.50 cubic feet asphalt surface burned and replaced, at \$1 |                             |            |                            |                   |                          |                |             |           | 288.50      |                           |            |                           |
| 0.34 cubic yard hydraulic base, at \$5                        |                             |            |                            |                   |                          |                |             |           | 1.70        |                           |            |                           |
| 4.67 square yards vitrified block gutter laid, at 60 cents    |                             |            |                            |                   |                          |                |             |           | 2.80        |                           |            |                           |
|   |                             |            |                            |                   |                          |                |             |           | 60,484.88   |                           |            |                           |







G.—Repairs to concrete and asphalt pavements at cost of railroad companies.

| Companies.           | Street.  | From—               | To—                       | Amount. |
|----------------------|--|---------------------|---------------------------|---------|
| d Sub.               | B, NE  | First               | Third                     | \$2.73  |
|                      | North Capitol and K, NW                          |                     |                           | 4.20    |
|                      | North Capitol and New York avenue                |                     |                           | 3.64    |
|                      | Sixth and Pennsylvania avenue                    |                     |                           | 4.24    |
|                      | Massachusetts avenue and G, NW                   |                     |                           | 3.64    |
|                      | G, NW  | Second              | Fourth                    | 2.73    |
|                      | North Capitol                                    | I                   | K                         | 4.55    |
|                      | Sixth and G, NW                                  |                     |                           | .91     |
|                      |  |                     |                           | 26.64   |
|                      |  |                     |                           |         |
| tia and<br>ac River. | Second and H, SW                                 |                     |                           | 2.73    |
|                      | O, NW  | Fourth              | Eleventh                  | 53.76   |
|                      | First and Maryland avenue, SW                    |                     |                           | 3.19    |
|                      | Second, SW                                       | C                   | Virginia avenue           | 1.36    |
|                      | Third and T, NE                                  |                     |                           | 2.73    |
|                      | Fourth and H and Fourth and Massachusetts avenue |                     |                           | 23.66   |
|                      | Fourteenth, NW                                   | Pennsylvania avenue | B                         | 2.73    |
|                      |  |                     |                           | 90.16   |
| litan                | Tenth and F, NW                                  |                     |                           | 4.55    |
|                      | Connecticut avenue                               | R                   | S                         | .60     |
|                      | Fifteenth and H, NW                              |                     |                           | 4.55    |
|                      | Ninth and Pennsylvania avenue, NW                |                     |                           | 1.82    |
|                      | Ninth and H, NW                                  |                     |                           | 1.82    |
|                      | Thirty-sixth and O, NW                           |                     |                           | 1.82    |
|                      | B, NE  | First               | Second                    | 3.66    |
|                      | Four-and-a-half                                  | Missouri avenue     | Maryland avenue           | 10.01   |
|                      | Ninth and M, NW                                  |                     |                           | .91     |
|                      | Connecticut avenue                               | K                   | Dupont circle             | 1.82    |
|                      | Ninth  | New York avenue     | Massachusetts ave<br>nue. | 15.16   |
|                      | Fourteenth                                       | F                   | New York avenue           | 2.73    |
|                      | D, NW  | New Jersey avenue   | First                     | 2.73    |
|                      | Second and East Capitol                          |                     |                           | .91     |
|                      |  |                     |                           | 53.09   |
|                      |  |                     |                           |         |
|                      |  |                     |                           |         |
|                      |  |                     |                           |         |
| n and<br>s' Home.    | Sixth and Pennsylvania avenue, NW                |                     |                           | 1.82    |
|                      |  |                     |                           |         |
| raction              | Pennsylvania ave-<br>nue, NW.                    | Thirteenth          | Fourteenth                | 3.64    |
|                      | do   | Fourteenth          | Fifteenth                 | 3.64    |
|                      | do   | Fifteenth           | Twenty-fourth             | 16.84   |
|                      | do   | Tenth               | Thirteenth                | 1.36    |
|                      | do   | Twenty-fourth       | Twenty-sixth              | 10.01   |
|                      | Pennsylvania avenue, SE., intersection Fifth     |                     |                           | .91     |
|                      | Twenty-sixth                                     | Pennsylvania avenue | M                         | 7.28    |
|                      | Fourteenth and Rhode Island avenue               |                     |                           | 3.00    |
|                      | Thirty-first and M                               |                     |                           | 1.36    |
|                      | M  | Bridge              | Thirty-first              | 18.20   |
|                      |  |                     |                           | 66.24   |
| a                    | H, NE  | North Capitol       | Fifteenth                 | 52.33   |
|                      | H, NW  | Third               | Fourth                    | 22.29   |
|                      | Massachusetts ave-<br>nue.                       | Fourth              | Seventh                   | 24.11   |
|                      | New York avenue                                  | Tenth               | Fifteenth                 | 12.74   |
|                      | Thirteenth and New York avenue                   |                     |                           | 4.10    |
|                      |  |                     |                           | 115.57  |

H.—Work done by day labor under the appropriation for "Current repairs to streets, avenues, and alleys," from July 1, 1900, to June 30, 1901.

|                      |              |             |
|----------------------|--------------|-------------|
| sidewalk laid        | square yards | 2,438       |
| sidewalk relaid      | do           | 17,196      |
| block paved          | do           | 731         |
| block repaved        | do           | 578         |
| 1 brick repaved      | do           | 811         |
| 1 block paved        | do           | 549         |
| 1 block repaved      | do           | 604         |
| paved                | do           | 10,523      |
| t                    | linear feet  | 573         |
| set                  | do           | 3,037       |
| aid                  | do           | 3,827       |
| block relaid         | square yards | 1,701       |
| tile sidewalk relaid | do           | 1,008       |
| sidewalk             | do           | 531         |
| g                    | cubic yards  | 7,562       |
| ing                  | square yard  | 10,165      |
|                      |              | \$24,734.77 |
| al                   |              | 1,657.32    |





ular permit.

[illegible]



**continued.**

[illegible]



Permit—Continued.

| Curb set.          |                   |         | Vitri-<br>fied<br>block<br>paved. | As-<br>phalt<br>block<br>paved. | Cob-<br>ble. | Flag<br>laid. | Flag<br>relaid. | Brick<br>side-<br>walk<br>paved. | Brick<br>side-<br>walk<br>re-<br>paved. | Con-<br>crete<br>base<br>laid. | Gran-<br>ite<br>blocks<br>re-<br>paved. | Cost.     |
|--------------------|-------------------|---------|-----------------------------------|---------------------------------|--------------|---------------|-----------------|----------------------------------|---|--------------------------------|---|-----------|
| 6 by 20<br>inches. | 8 by 8<br>inches. | Old.    |                                   |                                 |              |               |                 |                                  |   |                                |   |           |
| Lin.ft.            | Lin.ft.           | Lin.ft. | Sq.yds.                           | Sq.yds.                         | Sq.yds.      | Lin.ft.       | Lin.ft.         | Sq. yds.                         | Sq yds.                                 | Cu.yds.                        | Sq.yds.                                 |           |
|                    |                   | 4.40    |                                   |                                 |              |               |                 |                                  |   |                                |   | \$31.94   |
| 50                 | 3                 |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 83.25     |
|                    |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 75.70     |
|                    |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 100.80    |
|                    |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 120.54    |
|                    | 35.70             |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 388.90    |
|                    |                   |         |                                   |                                 | 20           |               | 60              |                                  |   |                                |   | 58.28     |
|                    |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 30.08     |
| 37.47              |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 538.66    |
|                    | 1,165.41          |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 1,057.98  |
|                    |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 113.42    |
| 741.60             |                   | 10      |                                   |                                 |              |               |                 |                                  |   |                                |   | 12.19     |
|                    |                   | 377.45  |                                   |                                 |              |               |                 |                                  |   |                                |   | 888.61    |
|                    | 20                |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 389.59    |
|                    | 273.10            |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 51.28     |
|                    |                   | 18.35   |                                   |                                 |              |               |                 |                                  |   |                                |   | 370.87    |
|                    | 237               |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 24.40     |
|                    |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 64.88     |
|                    |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 524.27    |
|                    |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 44.73     |
|                    |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 108.15    |
|                    |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 34.92     |
|                    |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 79.14     |
| 240.63             |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 498.03    |
|                    |                   |         | 11                                |                                 |              |               |                 |                                  | 10                                      |                                |   | 22.14     |
|                    |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 2.46      |
| 73.12              |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 158.00    |
| 115                |                   |         |                                   |                                 | 16           |               |                 | 90                               |   |                                |   | 59.32     |
|                    | 28.75             |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 54.27     |
|                    |                   | 9       |                                   |                                 |              |               |                 |                                  |   |                                |   | 50.07     |
|                    |                   |         | 13.50                             |                                 |              |               |                 |                                  | 4                                       |                                |   | 37.10     |
|                    |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 27.25     |
|                    | 14.98             |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 13.08     |
|                    | 58.57             |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 88.19     |
|                    |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 121.53    |
|                    | 103.48            |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 243.47    |
| 4.71               |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 43.46     |
|                    |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 43.49     |
|                    |                   |         |                                   |                                 |              |               |                 |                                  |   |                                |   | 37.37     |
|                    |                   |         | 30                                |                                 |              |               |                 |                                  | 9                                       | 30                             |   | 63.13     |
| 2,761.59           | 7,371.43          | 550     | 414.50                            | 100                             | 68.83        | 2,003.6       | 60              | 1,016                            | 206                                     | 30                             | 1.50                                    | 24,360.13 |



## OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

essment work.

[illegible]





**work—Continued.**

[illegible]

TABLE K.—Assessm

| No.  | Location.  | Grading.        | Cement<br>side-<br>walk. | Curb<br>reset.  | Curb set.          |                   |             |
|------|--|-----------------|--------------------------|-----------------|--------------------|-------------------|-------------|
|      |  |                 |                          |                 | 6 by 20<br>inches. | 8 by 8<br>inches. | Old         |
|      |  | <i>Cu. yds.</i> | <i>Sq. yds.</i>          | <i>Lin. ft.</i> | <i>Lin. ft.</i>    | <i>Lin. ft.</i>   | <i>Lin.</i> |
| 3087 | East side First street NW., from<br>H to I.....  |                 | 359.88                   | 33.80           | 18.84              |                   | 80          |
| 3088 | Both sides Twentieth street, be-<br>tween Woodley road and south<br>property line, Cliffbourne.....  | 800             | 1,351.03                 |                 |                    | 1,576.40          |             |
| 3089 | West side Seventh street NE.,<br>from Galena to Hartford, and<br>east side Seventh street, Hart-<br>ford to Keokuk.....  | 490             | 826.62                   |                 |                    |                   |             |
| 3091 | West side M street NW., from<br>Thirty-fourth to Thirty-fifth<br>street.....   |                 | 456.65                   | 12              |                    |                   | 12          |
| 3092 | South side Virginia avenue NW.,<br>from Twenty-fourth street to<br>G street.....   |                 | 476.50                   |                 | 3.64               |                   | 20          |
| 3094 | West side Twenty-ninth street<br>NW., from Q street north.....   |                 | 108.66                   |                 |                    |                   |             |
| 3095 | Southside Dartmouth street NW.,<br>from Thirteenth eastward.....   |                 | 402.59                   |                 | 575.05             | 31.42             |             |
| 3096 | North side N street, from Ninth<br>to Tenth street NW.....   |                 | 500.81                   |                 |                    | 476.84            | 4           |
| 3097 | North side Madison street NW.,<br>between Seventeenth and<br>Eighteenth streets.....   |                 | 267.52                   |                 |                    |                   |             |
| 3098 | East side Third street, Le Droit<br>Park, from Florida avenue<br>north to T.....   |                 | 688.50                   | 70              |                    | 682.17            |             |
| 3099 | North side Park street NW.,<br>Mount Pleasant, S. P. Brown's<br>subdivision.....   |                 |                          |                 | 152.65             |                   |             |
| 3100 | East side Brightwood avenue,<br>south side Chesapeake street,<br>and west side Illinois avenue,<br>block 3, Brightwood Park.....   |                 | 376.93                   | 9               | 53.60              |                   |             |
| 3102 | East side Thirty-sixth street<br>NW., from O to P street.....  |                 | 308.40                   |                 |                    |                   |             |
| 3101 | North and south sides Baltimore<br>street NW., front block 3, Cliff-<br>bourne.....  |                 | 1,435.51                 |                 |                    | 1,304.38          |             |
| 3103 | West side Fourteenth street<br>NW., from Columbia road south.....  |                 | 189.28                   |                 |                    |                   |             |
| 3105 | Alley, square 744 (Francis plan) ..  |                 |                          |                 | 17.51              |                   |             |
| 3106 | Northside Dartmouth street NW.,<br>from Thirteenth eastward.....   |                 | 372.01                   | 50              | 508.35             | 26.51             |             |
| 3107 | Northside T street NW., from Ver-<br>mont avenue to Eleventh street.....   |                 | 254.43                   | 119             |                    |                   |             |
| 3108 | Alleys, square 640.....  |                 |                          |                 |                    |                   |             |
| 3109 | South side E street NE., from<br>Third to Fourth.....  |                 | 441.78                   |                 |                    |                   |             |
| 3111 | Alley, square 933, between Ninth<br>and Tenth, H and I, NE.....  |                 |                          |                 |                    |                   |             |
| 3112 | West side Fourteenth street SE.,<br>from East Capitol to A.....  |                 | 239.71                   |                 |                    |                   |             |
| 3113 | East side First street SE., from<br>B to C street.....   |                 | 558.65                   | 485.40          |                    | 70                |             |
| 3116 | South side G street NW., Twen-<br>tieth to Twenty-first street.....  |                 | 406.07                   | 382.50          |                    | 25                |             |
| 3117 | Both sides First street NW., from<br>Rhode Island avenue to V<br>street.....   |                 | 819.38                   |                 |                    |                   |             |
| 3118 | North side Wyoming avenue, be-<br>tween Eighteenth and Nine-<br>teenth; south side Wyoming<br>avenue, between Eighteenth<br>and Nineteenth; south side Wy-<br>oming avenue, between Nine-<br>teenth and Columbia road;<br>north side California avenue,<br>between Eighteenth and Nine-<br>teenth; south side California<br>avenue, between Eighteenth<br>and Nineteenth; both sides Ver-<br>non street, between Eight-<br>eenth and Nineteenth streets .. |                 |                          |                 |                    | 837.02            |             |

—Continued.

| Bed<br>dredged. | Asphalt<br>block<br>paved. | Cobble.         | Asphalt<br>tile re-<br>laid. | Flag<br>laid.   | Flag<br>relaid. | Brick<br>sidewalk<br>laid. | Brick<br>sidewalk<br>relaid. | Granite<br>block<br>laid. | Cost.    |
|-----------------|----------------------------|-----------------|------------------------------|-----------------|-----------------|----------------------------|------------------------------|---------------------------|----------|
| <i>fts.</i>     | <i>Sq. yds.</i>            | <i>Sq. yds.</i> | <i>Sq. yds.</i>              | <i>Lin. ft.</i> | <i>Lin. ft.</i> | <i>Sq. yds.</i>            | <i>Sq. yds.</i>              | <i>Sq. yds.</i>           |          |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | \$476.23 |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 3,292.13 |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 1,228.63 |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 538.95   |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 499.68   |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 122.42   |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 1,022.62 |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 1,068.95 |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 285.05   |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 1,774.44 |
|                 |                            |                 |                              |                 |                 | 52.50                      |                              |                           | 228.64   |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 465.53   |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 347.27   |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 3,568.15 |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 192.89   |
| 574             |                            |                 |                              |                 |                 |                            |                              | 1,383                     | 1,864.75 |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 929.84   |
|                 | 27.50                      |                 |                              |                 |                 |                            |                              |                           | 297.93   |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 56.85    |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 454.18   |
| 583             |                            |                 |                              |                 |                 |                            |                              |                           | 930.58   |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 246.93   |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 708.97   |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 530.97   |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 790.60   |
|                 |                            |                 |                              |                 |                 |                            |                              |                           | 840.96   |















TABLE L.—*Replacing and repairing sidewalks and curbs*

| No.  | Location.  | Grading.        | Cement sidewalk. | Curb set.       |
|------|--|-----------------|------------------|-----------------|
|      |  | <i>Cu. yds.</i> | <i>Sq. yds.</i>  | <i>Lin. ft.</i> |
| 8001 | North Carolina avenue, in front of reservation 229.....                              | .....           | 150.76           | .....           |
| 8007 | Thirteenth street, Vermont avenue, O street, and Iowa Circle.....                    | .....           | 444.67           | 311             |
| 8011 | Seaton Park, from Missouri avenue to Maine avenue.....                               | .....           | 375.01           | 210             |
| 8014 | Reservation 100, Twenty-fourth street, F, Virginia avenue NW.....                    | .....           | 346.46           | .....           |
| 8015 | Reservations 98 and 134, New Hampshire avenue, Virginia avenue, and G street.....    | .....           | 759.68           | .....           |
| 8016 | Reservation 102, Virginia avenue, Twenty-second and E streets NW.....                | .....           | 285.61           | 18              |
| 8017 | Reservation 99, G and Twenty-fourth streets NW.....                                  | .....           | 295.00           | 210             |
| 8019 | South side Pennsylvania avenue SE., between Seventh and Eighth streets.....          | .....           | 280.31           | 20              |
| 8020 | D street NE., between Ninth and Thirteenth streets.....                              | .....           | .....            | .....           |
| 8028 | Hubbard School, Kenyon street NW., between Sherman avenue and Thirteenth street..... | .....           | 201.41           | .....           |
| 8029 | East side Tennessee avenue, between East Capitol and B streets NE.....               | 20.00           | 206.52           | .....           |
| 8040 | Truck house, S street NW., between Thirty-fourth and Thirty-fifth streets.....       | 121.00          | .....            | 60              |
| 8074 | East side Fourteenth street NW., between I and K.....                                | .....           | 566.66           | 5               |
| 8169 | New Jersey avenue, between D and E streets NW. (police station).....                 | .....           | 89.15            | 40              |
|      | Total.....   | 141.00          | 4,001.24         | 1,070           |

ound public reservations and municipal buildings.

| Curb set.          |                   |          | Brick<br>sidewalk<br>repaved. | Granite<br>block. | Cobble.  | Flag re-<br>laid. | Asphalt<br>tile. | Cost.    |
|--------------------|-------------------|----------|-------------------------------|-------------------|----------|-------------------|------------------|----------|
| 6 by 20<br>inches. | 8 by 8<br>inches. | Old.     |                               |                   |          |                   |                  |          |
| Lin. ft.           | Lin. ft.          | Lin. ft. | Sq. yds.                      | Sq. yds.          | Sq. yds. | Lin. ft.          | Sq. yds.         |          |
|                    |                   |          |                               |                   |          |                   |                  | \$146.73 |
| 24.50              |                   | 70.00    |                               |                   |          |                   |                  | 536.47   |
| 36.20              |                   | 31.00    |                               |                   |          |                   |                  | 527.25   |
|                    |                   |          |                               |                   |          |                   |                  | 334.38   |
|                    | 1,078.97          |          |                               |                   |          |                   |                  | 1,921.14 |
| 227.60             |                   |          |                               |                   |          |                   |                  | 512.42   |
| 12.10              |                   | 20.00    |                               |                   |          |                   |                  | 349.59   |
|                    | 20.55             | 20.00    |                               |                   |          |                   |                  | 405.40   |
|                    |                   |          | 822.00                        | 24.00             | 28.00    | 80.00             |                  | 197.91   |
|                    | 124.87            |          |                               |                   |          |                   |                  | 324.02   |
|                    |                   |          |                               |                   |          |                   |                  | 207.04   |
| 72.25              |                   |          |                               |                   |          |                   |                  | 461.62   |
|                    | 385.10            |          |                               |                   |          |                   |                  | 1,011.88 |
|                    |                   |          |                               |                   |          |                   |                  | 104.71   |
| 372.65             | 1,609.49          | 141.00   | 822.00                        | 24.00             | 28.00    | 80.00             |                  | 7,040.56 |













—Continued.

| Curb set.         |                 | Cobble.  | Brick side-<br>walk<br>paved. | Brick<br>sidewalk<br>repaved. | Cobble<br>gutters. | Drain-<br>pipe. | Cost.     |
|-------------------|-----------------|----------|-------------------------------|-------------------------------|--------------------|-----------------|-----------|
| y 20<br>hes.      | Old.            |          |                               |                               |                    |                 |           |
| Lin. ft.<br>98.69 | Lin. ft.<br>975 | Sq. yds. | Sq. yds.                      | Sq. yds.                      | Sq. yds.           | Lin. ft.        |           |
|                   |                 |          |                               |                               |                    |                 | \$859.23  |
|                   |                 | 54       |                               |                               |                    |                 | 307.65    |
|                   |                 |          |                               | 802                           |                    |                 | 191.85    |
|                   |                 |          |                               |                               |                    |                 |           |
|                   |                 |          |                               |                               |                    |                 | 34.75     |
|                   |                 |          |                               |                               |                    |                 | 68.04     |
|                   |                 |          |                               |                               |                    |                 | 162.25    |
|                   |                 |          |                               |                               |                    |                 | 307.50    |
|                   |                 |          |                               |                               |                    |                 | 881.28    |
|                   |                 |          |                               |                               | 350                |                 | 122.50    |
|                   |                 |          |                               |                               |                    |                 | 1,639.46  |
|                   |                 |          |                               |                               |                    |                 |           |
|                   |                 |          |                               |                               |                    |                 | 181.98    |
|                   |                 |          |                               |                               |                    |                 | 199.50    |
|                   |                 |          |                               |                               |                    |                 | 618.99    |
|                   |                 |          |                               |                               |                    |                 | 186.50    |
|                   |                 |          |                               |                               |                    | 308             | 405.48    |
|                   |                 | 67       |                               |                               |                    |                 | 124.08    |
|                   |                 |          |                               |                               |                    |                 | 100.27    |
|                   |                 |          |                               |                               |                    |                 | 201.18    |
|                   |                 |          |                               |                               |                    |                 | 243.07    |
|                   |                 |          |                               |                               |                    |                 | 11.50     |
|                   |                 |          |                               |                               |                    | 300             | 113.25    |
| 98.69             | 975             | 724      | 957                           | 1,000                         | 515                | 606             | 39,763.64 |

TABLE N.—Whole cost of work.

| No.  | Location.  | For whom done.                 | Cement sidewalk laid.<br><i>Sq. yards.</i> | Curb re-set.<br><i>Lin. feet.</i> | Brick sidewalk laid.<br><i>Sq. yards.</i> | Vitrified block laid.<br><i>Sq. yards.</i> | Cost.   |
|------|--|--------------------------------|--|-----------------------------------|---|--|---------|
| 5001 | S street NW., between Phelps place and Twenty-fourth street. | Davidson & Davidson            |  |                                   |   |  | \$10.00 |
| 5002 | No. 2121 Massachusetts avenue NW                             | C. F. Greishaber               | 130.75                                     | 28.25                             |   |  | 140.80  |
| 5004 | Anacostia Bridge   | Anacostia and Potomac Rwy. Co. |  |                                   |   |  | 21.16   |
| 5005 | South Capitol, between N and O streets                       | Anderson & Howison             |  |                                   |   | 16.66                                      | 41.01   |
| 5006 | No. 1306 Fourteenth street NW                                | Geo. W. Lyles                  |  |                                   |   |  | 8.15    |
| 5007 | Nos. 1008-1012 Thirteenth street NW                          | Dewey Hotel Co.                |  |                                   |   |  | 83.53   |
| 5008 | First and E streets NW                                       | Jas. Holmes & Son              |  | 16.5                              | 6.75                                      |  | 5.00    |
| 5009 | No. 1246 Third street SW                                     | H. L. Rust                     |  |                                   |   |  | 2.35    |
| 5010 | Fourteenth and Pennsylvania avenue NW                        | Bernard Green                  |  | 197.9                             |   |  | 73.80   |
| 5011 | No. 1325 Fourteenth street NW                                | L. Leaman                      |  |                                   |   |  | 6.00    |
| 5013 | No. 3157 Q street NW   | Jos. Richardson                |  | 24.8                              |   | 14.4                                       | 46.38   |
| 5014 | No. 1000 Maryland avenue NE                                  | J. T. Moxley                   |  |                                   |   |  | 5.00    |
| 5015 | No. 1117 Eighteenth street NW                                | T. E. Waggaman                 |  |                                   |   |  | 7.00    |
| 5016 | University place, opposite                                   | Mrs. J. H. Merrilat            |  | 9                                 | 15  | 9  | 19.87   |
|      | Total  |                                | 130.75                                     | 271.45                            | 21.75                                     | 40.06                                      | 475.06  |



TABLE N.—Whole cost of work.

| No.  | Location.  | For whom done.                 | Cement sidewalk laid. | Curb re-set. | Brick sidewalk laid. | Vitrified block laid. | Cost.    |
|------|--|--------------------------------|-----------------------|--------------|----------------------|-----------------------|----------|
|      |  |                                | Sq. yards.            | Lin. feet.   | Sq. yards.           | Sq. yards.            | \$10. 00 |
| 5001 | S street NW., between Phelps place and Twenty-fourth street. | Davidson & Davidson            | 130. 75               | 28. 25       |                      |                       | 140. 80  |
| 5002 | No. 2121 Massachusetts avenue NW.                            | C. F. Greishaber               |                       |              |                      |                       | 21. 16   |
| 5004 | Anacostia Bridge   | Anacostia and Potomac Rwy. Co. |                       |              |                      |                       | 41. 01   |
| 5005 | South Capitol, between N and O streets.                      | Anderson & Howison             |                       |              |                      | 16. 63                | 3. 15    |
| 5006 | No. 1308 Fourteenth street NW.                               | Geo. W. Lyles                  |                       |              |                      |                       | 83. 53   |
| 5007 | Nos. 1008-1012 Thirteenth street NW.                         | Dewey Hotel Co.                |                       |              |                      |                       | 5. 00    |
| 5008 | First and E streets NW.                                      | Jas. Holmes & Son              |                       | 16. 5        | 6. 75                |                       | 2. 85    |
| 5009 | No. 1216 Third street SW.                                    | H. L. Rust                     |                       |              |                      |                       | 73. 80   |
| 5010 | Fourteenth and Pennsylvania avenue NW.                       | Bernard Green                  |                       | 197. 9       |                      |                       | 6. 00    |
| 5011 | No. 1325 Fourteenth street NW.                               | L. Leaman                      |                       |              |                      |                       | 46. 38   |
| 5013 | No. 3157 Q street NW.  | Jos. Richardson                |                       | 24. 8        |                      | 14. 4                 | 5. 00    |
| 5014 | No. 1000 Maryland avenue NE.                                 | J. T. Moxley                   |                       |              |                      |                       | 7. 00    |
| 5015 | No. 1117 Eighteenth street NW.                               | T. E. Waggaman                 |                       |              |                      |                       | 19. 87   |
| 5016 | University place, opposite                                   | Mrs. J. H. Merrillat           |                       | 9            | 15                   | 9                     |          |
|      | Total  |                                | 130. 75               | 271. 45      | 21. 75               | 40. 06                | 475. 06  |

















*Tabulation of brick tested for the engineer department*

|    | Designation.           | Description of brick. |                    |                     |                      |
|----|------------------------|-----------------------|--------------------|---------------------|----------------------|
|    |                        | Condition of clay.    | Method of molding. |                     | Size in inches.      |
| 45 | Sewer brick.....       | Semidry .....         | Machine ...        | Re-pressed.....     | 2.41 by 4.14 by 8.57 |
| 46 | do .....               | do .....              | do .....           | do .....            | 2.50 by 4.20 by 8.65 |
| 47 | do .....               | do .....              | do .....           | do .....            | 2.40 by 4.09 by 8.55 |
| 48 | do .....               | Soft mud .....        | Hand .....         | do .....            | 2.48 by 4.15 by 8.59 |
| 49 | do .....               | do .....              | do .....           | do .....            | 2.55 by 4.06 by 8.55 |
| 50 | do .....               | do .....              | do .....           | do .....            | 2.51 by 4.07 by 8.67 |
| 51 | do .....               | do .....              | do .....           | do .....            | do .....             |
| 52 | do .....               | do .....              | do .....           | do .....            | 2.36 by 4.06 by 8.50 |
| 53 | do .....               | do .....              | do .....           | do .....            | 2.35 by 4.06 by 8.46 |
| 54 | do .....               | Semidry .....         | Machine ...        | Re-pressed.....     | 2.60 by 4.05 by 8.49 |
| 55 | do .....               | do .....              | do .....           | do .....            | 2.60 by 4.22 by 8.55 |
| 56 | do .....               | do .....              | do .....           | do .....            | 2.40 by 4.06 by 8.45 |
| 57 | Vitrified sewer brick. | do .....              | do .....           | do .....            | 2.50 by 4.16 by 9.04 |
| 58 | do .....               | do .....              | do .....           | do .....            | 2.47 by 4.27 by 9.05 |
| 59 | do .....               | do .....              | do .....           | do .....            | 2.53 by 4.10 by 9.13 |
| 60 | do .....               | do .....              | do .....           | do .....            | 2.45 by 4.25 by 8.92 |
| 61 | do .....               | do .....              | do .....           | do .....            | 2.46 by 4.22 by 8.92 |
| 62 | do .....               | do .....              | do .....           | do .....            | 2.45 by 4.23 by 8.89 |
| 63 | Common brick .....     | Soft mud .....        | do .....           | do .....            | 2.49 by 4.07 by 8.70 |
| 64 | do .....               | do .....              | do .....           | do .....            | 2.48 by 4.11 by 8.66 |
| 65 | do .....               | do .....              | do .....           | do .....            | 2.51 by 4.18 by 8.81 |
| 66 | do .....               | do .....              | do .....           | do .....            | 2.52 by 4.16 by 8.74 |
| 67 | do .....               | do .....              | do .....           | do .....            | 2.48 by 4.07 by 8.70 |
| 68 | do .....               | do .....              | do .....           | do .....            | 2.52 by 4.14 by 8.68 |
| 69 | Sewer brick .....      | Semidry .....         | do .....           | Re-pressed.....     | 2.57 by 4.10 by 8.50 |
| 70 | do .....               | do .....              | do .....           | do .....            | 2.52 by 4.10 by 8.47 |
| 71 | do .....               | do .....              | do .....           | do .....            | 2.49 by 4.07 by 8.52 |
| 72 | do .....               | do .....              | do .....           | do .....            | 2.46 by 4.09 by 8.47 |
| 73 | do .....               | do .....              | do .....           | do .....            | 2.50 by 4.18 by 8.63 |
| 74 | do .....               | do .....              | do .....           | do .....            | 2.54 by 3.98 by 8.42 |
| 75 | do .....               | do .....              | do .....           | do .....            | 2.58 by 4.14 by 8.58 |
| 76 | do .....               | do .....              | do .....           | do .....            | 2.60 by 4.10 by 8.50 |
| 77 | do .....               | do .....              | do .....           | do .....            | 2.59 by 4.17 by 8.55 |
| 78 | do .....               | do .....              | do .....           | do .....            | 2.60 by 4.16 by 8.48 |
| 79 | do .....               | do .....              | do .....           | do .....            | 2.58 by 4.29 by 8.60 |
| 80 | do .....               | do .....              | do .....           | do .....            | 2.65 by 4.25 by 8.61 |
| 81 | do .....               | Stiff mud .....       | do .....           | Wire (side) cut.... | 2.37 by 4.20 by 8.54 |
| 82 | do .....               | do .....              | do .....           | do .....            | 2.36 by 4.17 by 8.47 |
| 83 | do .....               | do .....              | do .....           | do .....            | 2.37 by 4.22 by 8.55 |

































TABLE III.—Statement showing cost of water mains, etc.—Continued.

| Location.   | Size.          | Length.      | Cost of material. | Cost of labor. | Total cost. |
|---|----------------|--------------|-------------------|----------------|-------------|
|   | <i>Inches.</i> | <i>Feet.</i> |                   |                |             |
| Water mains laid, paid for by the Capital Traction Company:                               |                |              |                   |                |             |
| East side of First street, between B and C streets NE.....                                | 8              | 541.4        |                   |                |             |
| West side of Twenty-sixth street, between Pennsylvania avenue and I street NW.....        | 8              | 1,100.3      |                   |                |             |
| South side of F street, between Twenty-first and Twenty-sixth streets NW.....             | 8              | 2,243.9      |                   |                |             |
| North side of F street, between Seventeenth and Twenty-first streets NW.....              | 8              | 2,011.9      |                   |                |             |
| North side of G street, between Seventeenth and Twenty-fourth streets NW.....             | 8              | 2,361.6      |                   |                |             |
| North side of G street, between Twenty-fourth and Twenty-sixth streets NW.....            | 8              | 1,060        |                   |                |             |
| West side of Twenty-fifth street, between H street and Pennsylvania avenue NW.....        | 8              | 1,449.3      |                   |                |             |
| West side of Seventeenth street, from G street to Pennsylvania avenue NW.....             | 8              | 157.4        |                   |                |             |
|   | 3              | 319          |                   |                |             |
| Mains laid, paid for by deposit.....  | 4              | 658          |                   |                |             |
|   | 6              | 5,343.9      |                   |                |             |
| Total cost for laying mains and connections, including repairs to improved pavements..... |                |              | 31,084.94         | \$15,997.70    | \$47,082.64 |
| Cost of erecting fire hydrants, including repairs to improved pavements.....              |                |              | 5,288.88          | 1,073.35       | 6,362.23    |
| Cost of superintendence.....  |                |              |                   | 1,990.35       | 1,990.35    |
| Grand total.....  |                |              | 36,373.82         | 19,061.40      | 55,435.22   |

TABLE IV.—Statement of length and cost of water mains laid from July 1, 1878, to June 30, 1901.















meters in the District of Columbia supplied with Potomac water—  
Continued.

MISCELLANEOUS WATER TAKERS (UNMETERED).

|          | North-<br>west. | Northeast. | South-<br>west. | Southeast. | Total. |
|----------|-----------------|------------|-----------------|------------|--------|
|          | 5               |            |                 |            | 5      |
|          | 10              | 5          | 1               | 1          | 17     |
|          | 21              | 6          | 5               | 9          | 41     |
|          | 105             | 31         | 19              | 19         | 174    |
|          | 1               |            | 1               | 1          | 3      |
|          | 228             | 79         | 15              | 33         | 355    |
|          | 200             | 13         | 16              | 17         | 306    |
|          | 5               |            |                 |            | 5      |
|          | 4               |            |                 |            | 4      |
|          | 45              | 14         | 10              | 10         | 79     |
|          | 8               |            | 1               | 1          | 10     |
|          | 64              | 7          | 1               | 3          | 75     |
| etc      | 77              | 13         | 17              | 17         | 124    |
|          | 3               |            |                 |            | 3      |
|          | 15              | 2          | 3               |            | 20     |
|          | 6               |            | 1               |            | 7      |
|          | 3               |            |                 |            | 3      |
| ventions | 47              | 8          | 3               | 7          | 65     |
|          | 10              |            | 1               | 1          | 12     |
|          | 18              | 5          | 1               | 3          | 27     |
|          | 6               |            |                 | 1          | 7      |
|          | 80              | 16         | 17              | 21         | 134    |
|          | 184             | 10         | 20              | 16         | 230    |
|          | 12              | 1          | 1               | 1          | 15     |
|          | 641             | 114        | 170             | 102        | 1,027  |
|          | 1,465           | 836        | 225             | 260        | 2,786  |
|          | 162             | 9          | 14              | 14         | 199    |
|          | 6               |            |                 |            | 6      |
|          | 14              | 1          | 1               | 1          | 17     |
|          | 4               |            |                 |            | 4      |
|          | 26              | 6          | 6               | 1          | 39     |
| ls.      | 6               | 1          | 1               |            | 8      |
|          | 3,530           | 677        | 540             | 520        | 5,267  |

TABLE V.—Water meters.











chargeable to appropriations for fiscal years 1900 and 1901.

| Allowance to contractor. | Material furnished |                 | Cost of inspection. | Cost of repairs to pavements. | Total cost. | Appropriation.   |
|--------------------------|--------------------|-----------------|---------------------|-------------------------------|-------------|--|
|                          | Chargeable.        | Not chargeable. |                     |                               |             |  |
| \$3,164.20               | \$624.62           | -----           | \$149.00            | -----                         | \$3,937.82  | Cleaning and repairing sewers and basins, 1900.  |
| 2,651.30                 | 906.00             | \$20.30         | 2 380.00            | 2 907.52                      | 1 4,565.12  | Main and pipe sewers, 1900.  |
| 7 808.32                 | -----              | -----           | 7 144.00            | -----                         | -----       |  |
| 579.60                   | 103.89             | 463.94          | 56.00               | -----                         | 1,203.63    | Suburban sewers, 1900.   |
| 1,004.80                 | 207.40             | 703.74          | 140.00              | -----                         | 2,055.94    | Do.  |
| 887.01                   | 107.67             | 467.14          | 40.00               | -----                         | 1,501.82    | Do.  |
| 107,035.45               | 15,001.25          | 112.49          | 2,479.00            | 2,051.30                      | 128,679.49  | North portion Tiber Creek and New Jersey avenue, high-level intercepting sewer.        |
| 7 14,914.54              | -----              | -----           | -----               | -----                         | -----       |  |
| 230,981.80               | 43,455.74          | 508.90          | 8,583.62            | 25,194.34                     | (1)         | Tiber Creek and New Jersey avenue, high-level intercepting sewer.                      |
| 7 58,085.90              | -----              | -----           | 7 1,990.00          | -----                         | -----       |  |
| 51,574.04                | -----              | -----           | 2,382.50            | -----                         | (1)         | East side intercepting, between Twelfth street SE. and pumping station.                |
| 7 38,850.44              | -----              | -----           | 7 1,528.50          | -----                         | (2)         |  |
| 20,757.10                | -----              | -----           | 1,508.50            | -----                         | (2)         | East side intercepting, between Twenty-second and A streets NE. and Twelfth street SE. |
| 4,886.98                 | -----              | -----           | 308.00              | -----                         | (2)         |  |
| 22,748.03                | -----              | -----           | 804.00              | -----                         | (2)         | Extension boundary sewer, 1900.  |
| 12,035.98                | -----              | -----           | 784.00              | -----                         | (2)         | Arizona avenue sewer.  |
| 1,973.05                 | -----              | -----           | 260.00              | -----                         | (2)         | L street sewer.  |
| 1,918.47                 | 580.24             | 93.07           | 176.00              | -----                         | 2,767.78    | Main and pipe sewers, 1901.  |
| 1,444.78                 | 126.83             | 508.22          | 2 132.00            | 2 56.26                       | 2,268.09    | Do.  |
| 1,475.36                 | 175.29             | 649.39          | 114.00              | 70.07                         | 2,484.11    | Do.  |
| 1,609.06                 | 99.28              | 549.84          | 116.00              | 745.01                        | 3,119.19    | Do.  |
| 1,061.67                 | 153.17             | 261.10          | 58.00               | 682.08                        | 2,216.02    | Replacing obstructed sewers, 1901.   |
| 11,469.18                | 1,262.07           | 4,152.05        | 784.00              | -----                         | 17,667.30   | Suburban sewers, 1901.   |

<sup>1</sup> Figures in red show length of sewer constructed and allowance to contractor in fiscal year 1901.

<sup>2</sup> Includes cost of repairs to bulkhead Canal and E streets, restoring surface Garfield Park, restoring trees Delaware avenue, moving water mains South Capitol and C streets, restoring Capitol grounds, moving water-main valve in Reservation No. 17, moving fire hydrant Canal and E streets, moving and restoring street lamps Delaware avenue and Second and I streets, repairs to car tracks Canal and E streets, repairs to car tracks B street SE., charged to contractor.

<sup>3</sup> Work incomplete; payment made on account.









**OPERATIONS OF THE ENGINEER DEPARTMENT, D. C. 119**

*permit work, and whole cost to applicant, for fiscal year 1901—Continued.*

**SYSTEM.**

| Amount of deposit. | Cost to District of Columbia. | Cost to applicant. | Total cost. | Amount returned. | For whom done.                      | Overseer      | Date of completion.         |
|--------------------|-------------------------------|--------------------|-------------|------------------|-------------------------------------|---------------|-----------------------------|
| 990.00             | \$70.59                       | \$70.59            | \$141.18    | \$9.41           | Washington Fertilizer Co.           | Thomas .....  | Apr. 1 1901                 |
| 82.50              | 73.49                         | 73.48              | 146.97      | ( <sup>1</sup> ) | Ray E. Middaugh                     | Ward .....    | Apr. 9, 1901                |
| 30.00              | 28.37                         | 28.38              | 58.75       | 3.63             | C. V. Sparrow                       | Lanigan ..... | Mar 11, 1901                |
| 115.00             | 80.02                         | 80.03              | 190.05      | 34.97            | The Potomac Insurance Co.           | do .....      | May 21, 1901                |
| 20.00              | 16.61                         | 16.60              | 33.21       | 3.40             | Jas. D. Darnall                     | do .....      | June 1, 1901                |
| 90.00              | ( <sup>2</sup> )              |                    |             |                  | Middaugh & Shannon.                 | Ward .....    | ( <sup>2</sup> )            |
| 195.00             | 145.45                        | 145.45             | 290.90      | 49.55            | Washington Sanitary Improvement Co. | Prince .....  | Apr. 30, 1901               |
| 92.00              | 81.33                         | 81.23              | 162.66      | 10.67            | A. P. Clarke, Jr.                   | Condon .....  | <sup>18</sup> July 10, 1901 |
| 230.00             | 140.65                        | 140.65             | 281.30      | 79.35            |                                     | Lanigan ..... | Apr. 13, 1901               |
| 65.00              | 55.46                         | 55.46              | 110.92      | 9.84             |                                     | Ward .....    | Mar. 22, 1901               |
| 90.00              | 90.00                         | 90.00              | 180.00      |                  | Kennedy & Davis                     | Thomas .....  | Oct. 23, 1900               |
| 144.00             | 115.29                        | 115.30             | 220.69      | 28.70            | Jas. W. Tyler                       | do .....      | May 6, 1901                 |
| 28.71              | 28.70                         | 28.71              | 53.41       |                  | The Chapin-Sacks Co.                | do .....      | June 14, 1901               |
| 32.50              | 28.16                         | 28.16              | 56.32       | 4.34             | John Sherman                        | Ward .....    | July 22, 1900               |
| 84.00              | 75.50                         | 75.50              | 151.00      | 8.50             | John J. Horrigan                    | Thomas .....  | July 25, 1900               |
| 51.00              | 41.87                         | 41.87              | 88.74       | 9.13             | S. Carr                             | Prince .....  | Aug 13, 1900                |
| 25.00              | 15.11                         | 15.12              | 30.23       | 9.88             | F. W. Graham                        | Thomas .....  | Nov 9, 1900                 |
| 85.00              | 59.22                         | 59.22              | 100.44      | 34.78            | Gasch Bros.                         | Prince .....  | Dec 21, 1900                |
| 269.00             | 206.00                        | 206.00             | 590.00      | 94.00            | Thos J. Fisher & Co.                | do .....      | Dec. 19, 1900               |
| .....              | 58.81                         | <sup>2</sup> 58.82 | 117.63      |                  | Capital Traction Co.                | Lanigan ..... | Apr. 18, 1901               |
| .....              | 52.08                         | <sup>2</sup> 52.08 | 104.16      |                  | do .....                            | do .....      | Apr 22, 1901                |
| .....              | 33.01                         | <sup>2</sup> 33.00 | 66.01       |                  | do .....                            | do .....      | Apr 17, 1901                |
| 18.00              | 13.25                         | 13.25              | 26.50       | 4.75             | E. L. McClelland                    | Prince .....  | Apr. 27, 1901               |
| 101.50             | 79.67                         | 79.67              | 159.14      | 21.93            | Richard Knight                      | Ward .....    | Apr. 10, 1901               |
| 80.00              | 55.50                         | 55.51              | 111.01      | 24.49            | S. Carr                             | Prince .....  | May 2, 1901                 |
| 140.00             | 112.88                        | 112.88             | 225.76      | 27.12            | J. N. Baker                         | Lanigan ..... | June 24, 1901               |
| 44.00              | ( <sup>2</sup> )              |                    |             |                  | Mrs. Garland                        | Ward .....    | ( <sup>2</sup> )            |
| 130.00             | 130.00                        | 130.00             | 260.00      |                  | C. F. Norment                       | Prince .....  | Aug 4, 1900                 |
| 32.00              | 29.48                         | 29.47              | 58.95       | 2.53             | W. F. Davidson                      | Thomas .....  | Oct. 27, 1900               |
| 42.00              | 42.00                         | 42.00              | 84.00       |                  | Bates Warren                        | do .....      | Mar. 16, 1901               |
| .....              | 46.91                         | <sup>2</sup> 46.91 | 93.82       |                  | Capital Traction Co.                | Lanigan ..... | Apr 4, 1901                 |
| 251.00             | 213.68                        | 213.68             | 427.76      | 67.12            | John H. Nolan                       | Ward .....    | Aug. 13, 1900               |
| 30.00              | 20.21                         | 20.21              | 40.42       | 9.79             | E. F. Kennedy                       | Lanigan ..... | Dec. 28, 1900               |
| 10,384.41          | 8,600.34                      | 8,539.06           | 18,810.89   | 1,914.72         |                                     |               |                             |

<sup>2</sup> Chargeable to the general deposit of the Capital Traction Co.



# OPERATIONS OF THE ENGINEER DEPARTMENT, D. C. 121

permit work, and whole cost to applicant, for fiscal year 1901.

EM.

| DATE | NO. | AMOUNT | AMOUNT | AMOUNT   | NAME    | DATE           |
|------|-----|--------|--------|----------|---------|----------------|
| 2    | 7   | 120.62 | 120.62 | 241.64   | Thomas  | Apr 1, 1901    |
| 1    | 6   | 225.42 | 225.42 | 450.84   | Prince  | June 3, 1901   |
| 2    | 8   | 121.00 | 121.01 | 52.72    | Lanigan | June 27, 1901  |
| 2    | 9   | 380.45 | 380.46 | 242.01   | Ward    | May 10, 1901   |
| 2    | 9   | 380.45 | 380.46 | 6.88     | Lanigan | May 16, 1901   |
| 1    | 24  | 300.07 | 300.07 | 778.91   | Prince  | Nov 27, 1900   |
| 3    | 46  | 506.31 | 506.31 | 600.14   | do      | Oct. 23, 1900  |
| 1    | 5   | 157.96 | 157.96 | 1,012.62 | do      | Nov. 9, 1900   |
| 2    | 3   | 261.21 | 261.22 | 315.92   | Ward    | June 5, 1901   |
| 1    | --- | 160.39 | 160.39 | 522.43   | Thomas  | Mar. 20, 1901  |
| 1    | --- | 153.72 | 153.73 | 320.78   | Lanigan | Mar 26, 1901   |
| 1    | 11  | 96.34  | 96.34  | 307.45   | Ward    | Mar. 31, 1901  |
| 1    | 4   | 91.90  | 91.91  | 192.83   | Lanigan | May 8, 1901    |
| 1    | --- | ---    | ---    | 183.61   | Ward    | Mar. 11, 1901  |
| 1    | --- | ---    | ---    | 43.93    | Lanigan | Sept. 29, 1900 |

\* Work performed at request of surface department.

\* One manhole adjusted.

TABLE 1.—*Streets and sewers laid under the appropriation for assessment*

ASSESSMENT

| No. | Location   | Pipe sewers laid length in feet |         |          |         |
|-----|--|---------------------------------|---------|----------|---------|
|     |  | 4-inch                          | 10-inch | 12-inch  | 15-inch |
| 112 | King street NE. between Bladensburg road and ...                       |                                 | 12.4    |          |         |
| 113 | King street NE. between Trinidad street and ...                        |                                 | 135     |          |         |
| 114 | King street NE. between Half and South Capitol streets                 |                                 |         | 160      |         |
| 115 | King street NE. between Half and First streets                         |                                 |         | 260      |         |
| 116 | King street NE. between Half and First streets                         |                                 |         | 260      |         |
| 117 | King street NE. between Thirteenth and Fourteenth streets              |                                 |         |          | 20      |
| 118 | Massachusetts avenue from Sheridan circle southward                    |                                 |         | 167      |         |
| 119 | Maple avenue between Nichols avenue and ...                            |                                 | 26      |          |         |
| 120 | Maple avenue between Spring and High streets                           | 46                              | 49      | 25       |         |
| 121 | Maple avenue between Baltimore and Ohio R. R. and Carroll avenue       |                                 | 12      |          |         |
| 122 | O street NW. between Twenty-eighth and Twenty-ninth streets north side |                                 |         |          |         |
| 123 | O street NW. between Twenty-eighth and Twenty-ninth streets south side |                                 |         |          |         |
| 124 | Newark street NW. from Connecticut avenue westward                     | 21                              |         |          |         |
| 125 | New York place square <sup>2</sup>                                     |                                 |         | 26       |         |
| 126 | New York avenue NW. between Twenty-first and Twenty-second streets     |                                 |         | 141      |         |
| 127 | New York avenue NW. between Twenty-second and Twenty-third streets     |                                 |         | 322      |         |
| 128 | New York avenue NW. between Virginia avenue and Twentieth street       |                                 |         | 185      |         |
| 129 | Northeast corner Nineteenth and Q streets NW.                          |                                 |         |          |         |
| 130 | N street NW. between Nineteenth and Twentieth street NW.               | 46                              |         |          |         |
| 131 | New York avenue NW. between Nineteenth and Twentieth streets           |                                 |         | 255      |         |
| 132 | New York avenue NW. between Fourteenth and Fifteenth streets           |                                 |         | 330      |         |
| 133 | Piney Branch Road. between Vermilion and Cinatilla streets             |                                 | 301     |          |         |
| 134 | Philadelphia street. between Brightwood avenue and Eighth street       |                                 | 274.5   |          |         |
| 135 | Pennsylvania avenue SE. between Fourteenth and Fifteenth streets       |                                 |         | 450      |         |
| 136 | Northwest corner Pennsylvania avenue and Jackson place                 |                                 |         |          |         |
| 137 | Quincy street NE. between Frankfort and Hartford streets               |                                 |         | 28       |         |
| 138 | S street NW. between First and Second streets                          |                                 | 22      | 218      |         |
| 139 | Shannon place from Navy place southward                                |                                 |         | 430      |         |
| 140 | Second street SW. between C and D streets                              | 15.5                            |         |          |         |
| 141 | Square 70  | 55                              | 160.4   | 24       |         |
| 142 | South side Sheridan circle from Twenty-third street westward           |                                 |         | 112      |         |
| 143 | Twelfth street NE. between Providence and Lansing streets              |                                 | 151     |          |         |
| 144 | Trinidad street NE. from Levis street southward                        |                                 | 136.5   | 18       |         |
| 145 | Trinidad street NE. from King street northward                         |                                 |         | 257      |         |
| 146 | Square 24  |                                 | 140     |          |         |
| 147 | Twelfth street SE. between D and E streets                             |                                 | 64      |          |         |
| 148 | Wallace street, between Frankfort and Hartford streets                 |                                 | 142     |          |         |
|     | Total  | 2,831.9                         | 6,948.4 | 11,657.6 | 6,375   |

<sup>1</sup> Awaiting bill for repairs to pavements.<sup>2</sup> One manhole adjusted.<sup>3</sup> Sewer constructed in fiscal year 1900.

work, and whole cost to applicant, for fiscal year 1901—Continued.

L

| Manholes. | Branches. | Cost to District of Columbia. | Cost to property owner. | Total cost.      | Overseer.     | Date of completion.        |
|-----------|-----------|-------------------------------|-------------------------|------------------|---------------|----------------------------|
| 1         | 13        | \$82.12                       | \$82.11                 | \$124.23         | Prince .....  | Mar. 1, 1901               |
| 1         | 7         | 82.93                         | 82.94                   | 165.87           | ....do.....   | Feb. 27, 1901              |
| 1         | 2         | 139.62                        | 139.62                  | 279.24           | Ward .....    | Jan. 14, 1901              |
| 1         | .....     | 148.67                        | 148.67                  | 297.84           | ....do.....   | Mar. 16, 1901              |
| 1         | .....     | 142.77                        | 142.76                  | 285.53           | ....do.....   | Apr. 1, 1901               |
| 1         | 16        | 399.18                        | 399.18                  | 798.86           | ....do.....   | May 7, 1901                |
| .....     | 7         | 118.11                        | 118.12                  | 236.23           | Thomas.....   | July 31, 1900              |
| 1         | 9         | 141.93                        | 141.93                  | 283.86           | Ward .....    | June 5, 1901               |
| 4         | 41        | .....                         | .....                   | ( <sup>1</sup> ) | .....         | ( <sup>2</sup> )           |
| 2         | 15        | 301.25                        | 301.26                  | 602.51           | Prince .....  | June 29, 1901              |
| 2         | .....     | 42.98                         | 42.98                   | 85.96            | Thomas .....  | <sup>3</sup> July 27, 1900 |
| .....     | .....     | 10.75                         | 10.75                   | 21.50            | ....do.....   | <sup>3</sup> July 20, 1900 |
| 2         | 28        | 513.80                        | 513.80                  | 1,027.60         | Ward .....    | Aug. 8, 1900               |
| 1         | .....     | 325.72                        | 325.72                  | 651.44           | ....do.....   | <sup>4</sup> Aug. 24, 1900 |
| 1         | 2         | 186.84                        | 186.84                  | 373.68           | ....do .....  | Aug. 30, 1900              |
| .....     | 2         | 323.80                        | 323.80                  | 647.60           | ....do .....  | Sept. 8, 1900              |
| 1         | 4         | 122.29                        | 122.29                  | 244.58           | ....do .....  | Sept. 11, 1900             |
| .....     | .....     | .....                         | .....                   | 51.23            | Lanigan ..... | <sup>5</sup> Oct. 3, 1900  |
| 1         | 3         | 40.96                         | 40.95                   | 81.91            | ....do .....  | Jan. 16, 1901              |
| 2         | 7         | 162.83                        | 162.83                  | 325.66           | Prince .....  | Mar. 28, 1901              |
| 1         | 7         | 264.43                        | 264.43                  | 528.86           | ....do .....  | June 19, 1901              |
| 1         | 8         | 225.25                        | 225.25                  | 450.50           | Lanigan ..... | June 15, 1901              |
| 1         | 10        | 208.31                        | 208.31                  | 416.62           | Ward .....    | Nov. 23, 1900              |
| 2         | 7         | 316.58                        | 316.59                  | 633.17           | ....do .....  | June 5, 1901               |
| .....     | .....     | .....                         | .....                   | 59.93            | Lanigan ..... | <sup>6</sup> May 3, 1901   |
| 2         | 5         | 220.25                        | 220.25                  | 440.50           | Prince .....  | Mar. 13, 1901              |
| 2         | 13        | 219.24                        | 219.25                  | 438.49           | ....do .....  | Oct. 15, 1900              |
| 2         | 15        | 290.16                        | 290.16                  | 580.32           | ....do .....  | Oct. 1, 1900               |
| .....     | 2         | 7.51                          | 7.51                    | 15.02            | Ward .....    | Feb. 28, 1901              |
| 3         | 19        | 344.20                        | 344.21                  | 688.41           | Thomas .....  | Mar. 19, 1901              |
| 1         | 1         | 95.27                         | 95.27                   | 190.54           | Lanigan ..... | May 20, 1901               |
| 1         | 4         | 102.76                        | 102.77                  | 205.53           | Prince .....  | <sup>6</sup> July 5, 1900  |
| 2         | 10        | 103.10                        | 103.10                  | 206.20           | ....do .....  | Feb. 28, 1901              |
| 2         | 5         | 164.52                        | 164.52                  | 329.04           | ....do .....  | Mar. 7, 1901               |
| 1         | 9         | 93.62                         | 93.62                   | 187.24           | Lanigan ..... | Jan. 12, 1901              |
| .....     | 3         | 39.79                         | 39.79                   | 79.58            | ....do .....  | Mar. 7, 1901               |
| 1         | 3         | 101.53                        | 101.53                  | 203.06           | ....do .....  | May 3, 1901                |
| 109       | 557       | 14,725.34                     | 14,725.46               | 29,665.27        |               |                            |

<sup>1</sup> The excessive cost of this work is due to the large amount of rock excavation.  
<sup>2</sup> Work performed at request of surface department.  
<sup>3</sup> Work begun in fiscal year 1900.

201

202

203

204

205



hole cost.

| Amount<br>deposit. | Total cost. | Amount<br>returned. | For whom done.                           | Overseer.     | Date of<br>completion. |
|--------------------|-------------|---------------------|--|---------------|------------------------|
| \$45.00            | \$33.87     | \$11.13             | Matilda Wilkins .....                    | Prince .....  | Sept. 25, 1900         |
| 25.00              | 24.69       | .31                 | F. S. Gannon, third vice-presi-<br>dent. | Lanigan ..... | Do.                    |
| (1)                | 31.87       | .....               | Anacostia and Potomac R. R. ....         | do .....      | Dec. 22, 1900          |
| (1)                | 57.75       | .....               | Capital Traction Co .....                | do .....      | Apr. 30, 1901          |
| (1)                | 27.34       | .....               | do .....                                 | do .....      | Dec. 15, 1900          |
| 20.00              | 16.09       | 3.91                | C. F. Grieshaber .....                   | do .....      | Sept. 25, 1900         |
| 740.14             | 740.14      | .....               | Bernard R. Green .....                   | Thomas .....  | Mar. 2, 1901           |
| (1)                | 34.05       | .....               | Capital Traction Co .....                | Lanigan ..... | Nov. 24, 1900          |
| 35.00              | 33.17       | 1.83                | A. Loeffler .....                        | do .....      | June 7, 1901           |
| 170.00             | 161.68      | 8.32                | City and Suburban Rwy. Co .....          | do .....      | July 7, 1900           |
| (1)                | 143.86      | .....               | Capital Traction Co .....                | do .....      | Mar. 20, 1901          |
| 1,065.14           | 1,304.51    | 25.50               |  |               |                        |

<sup>2</sup> Artificial basin top replaced by bluestone top.

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\* Paid out of general deposit.

cost.

| int<br>osit. | Total cost. | Amount<br>returned. | For whom done.                           | Overseer.     | Date of<br>completion. |
|--------------|-------------|---------------------|--|---------------|------------------------|
| 5.00         | \$33.87     | \$11.13             | Matilda Wilkins .....                    | Prince .....  | Sept. 25, 1900         |
| 5.00         | 24.69       | .31                 | F. S. Gannon, third vice-presi-<br>dent. | Lanigan ..... | Do.                    |
|              | 31.87       |                     | Anacostia and Potomac R. R. ....         | do .....      | Dec. 23, 1900          |
|              | 57.75       |                     | Capital Traction Co .....                | do .....      | Apr. 30, 1901          |
|              | 27.34       |                     | do .....                                 | do .....      | Dec. 15, 1900          |
| 0.00         | 16.09       | 3.91                | C. F. Grieshaber .....                   | do .....      | Sept. 25, 1900         |
| 0.14         | 740.14      |                     | Bernard R. Green .....                   | Thomas .....  | Mar. 2, 1901           |
|              | 34.05       |                     | Capital Traction Co .....                | Lanigan ..... | Nov. 24, 1900          |
| 5.00         | 33.17       | 1.83                | A. Loeffler .....                        | do .....      | June 7, 1901           |
| 0.00         | 161.68      | 8.32                | City and Suburban Rwy. Co .....          | do .....      | July 7, 1900           |
|              | 143.86      |                     | Capital Traction Co .....                | do .....      | Mar. 20, 1901          |
| 5.14         | 1,304.51    | 25.50               |  |               |                        |

\* Artificial basin top replaced by bluestone top.

TABLE 5.—*Work done by day labor*

## REPLACING OBSTRUCTED SEWERS.

| Number of or-<br>der. | Location.   | Pipe sewers laid (length in |          |          |          |
|-----------------------|---|-----------------------------|----------|----------|----------|
|                       |   | 6-inch.                     | 10-inch. | 12-inch. | 15-inch. |
| 402                   | D street NW., between Seventh and Eighth streets .....                | ( <sup>1</sup> )            | .....    | 30       | .....    |
| 406                   | Eleventh street NW., between K street and Vermont avenue .....        | 63                          | .....    | 136      | .....    |
| 420                   | Square 870 .....  | 66                          | .....    | 158      | .....    |
| 400                   | Four-and-a-half street SW., between H and I streets .....             | 6                           | .....    | 306      | .....    |
| 415                   | F street NW., between Second and Third streets .....                  | 69                          | .....    | 362      | .....    |
| 401                   | K street SW., between Sixth and Seventh streets .....                 | 60                          | .....    | .....    | 50       |
| 404                   | O street NW., between Fourth and Sixth streets .....                  | 30                          | .....    | .....    | .....    |
| 421                   | New Jersey avenue SE., between E and Ivy streets .....                | 6                           | .....    | 175      | .....    |
| 407                   | Prospect street NW., from Potomac eastward .....                      | 39                          | 305      | .....    | .....    |
| 414                   | P street NW., between Fifteenth and Sixteenth streets .....           | 135                         | .....    | .....    | .....    |
| 409                   | Rhode Island avenue, between Twelfth street and Vermont avenue .....  | 12                          | .....    | 201      | .....    |
| 408                   | Rhode Island avenue, between Twelfth street and Vermont avenue .....  | 9                           | .....    | .....    | 8        |
| 411                   | Rhode Island avenue, between Fifth street and New Jersey avenue ..... | 15                          | .....    | 86       | .....    |
| 403                   | Sixth street SW., between K and L streets .....                       | 30                          | .....    | 271      | .....    |
| 407                   | Twelfth street NW., crossing Rhode Island avenue .....                | .....                       | .....    | .....    | .....    |
| 412                   | Square 367 .....  | 45                          | .....    | .....    | 28       |
| 413                   | do .....  | 63                          | .....    | 32       | .....    |
| 416                   | Thirteenth street SW., between B and D streets .....                  | 39                          | .....    | .....    | 37       |
| 419                   | Square 342 .....  | 3                           | .....    | 120      | .....    |
| 422                   | Third street SE., between M and N streets .....                       | 45                          | .....    | 206      | 4        |
| 410                   | Vermont avenue from Iowa circle northward .....                       | 9                           | 97       | .....    | .....    |
|                       | Total .....   | 744                         | 402      | 2,073    | 1,28     |

<sup>1</sup> The net cost is determined by deducting the cost of repairs to pavements and cost of connections from the total cost.

<sup>2</sup> Six-inch pipe used in making house connections.

<sup>3</sup> Repairs to pavements were made in fiscal year 1902.

<sup>4</sup> Includes \$29.94 cost of work by plumber.

*as sewer appropriations, fiscal year 1901.*

REPLACING OBSTRUCTED SEWERS.

- 
- \* Includes \$10.22 cost of work by plumber.
  - \* Awaiting bill for repairs to pavements.
  - \* Includes \$2.50 cost of work by plumber.
  - \* Work completed fiscal year 1902.
  - \* Includes \$15.07 cost of work by plumber.



SCUDERS.

FIG

20

21

22

23

24

25

<sup>1</sup> Includes \$12.03, cost of work by plumber.





—Continued.

1

2

3

4

5

6

7

\* Includes \$44.00, cost of work by plumber.  
 \* Includes \$77.10, cost of work by plumber.



(Continued.)

4



506647



4

<sup>2</sup> Includes \$9.95, cost of work by plumber.

TABLE 7.

| No.<br>of<br>order. | Location.   | Pipe sewers<br>(length in feet) |          |          |
|---------------------|---|---------------------------------|----------|----------|
|                     |   | 8-inch.                         | 10-inch. | 12-inch. |
| 804                 | Block 7, Bloomingdale .....   |                                 |          |          |
| 825                 | Baltimore and Ohio R. R. (right of way), between Maple avenue<br>and Blair road ..... |                                 | 367      |          |
| 808                 | Cincinnati street NE., between Third and Fourth streets .....                         |                                 |          |          |
| 815                 | Champlain avenue NW., between Superior and Erie streets .....                         |                                 |          |          |
| 824                 | Chestnut avenue crossing, Baltimore and Ohio R. R. ....                               | 93                              |          |          |
| 826                 | California avenue NW., between Eighteenth street and Florida<br>avenue .....          |                                 |          |          |
| 805                 | Dartmouth street NW., between Eleventh street and Sherman<br>avenue .....             |                                 |          |          |
| 802                 | Folsom street, from Newark street northward .....                                     | 206                             |          |          |
| 807                 | Fifth street NW., between Des Moines and Erie streets .....                           |                                 |          |          |
| 809                 | Fifth street NW., between Erie and Flint streets .....                                |                                 | 396      |          |
| 817                 | Fillmore street, between Harrison and Jackson streets .....                           |                                 |          |          |
| 806                 | Jefferson street, between Polk and Fillmore streets .....                             |                                 |          |          |
| 827                 | Le Droit avenue, between Seaton and Thomas streets .....                              |                                 | 54       |          |
| 829                 | Maple avenue, between Baltimore and Ohio R. R. and Carroll<br>avenue .....            |                                 | 206      |          |
| 828                 | North Capitol street, between Seaton and T streets .....                              |                                 |          |          |
| 812                 | Ontario avenue, between Superior and Erie streets .....                               |                                 |          |          |
| 813                 | .....do .....   |                                 |          |          |
| 811                 | Phelps place NW., between S street and Florida avenue .....                           |                                 |          |          |
| 821                 | Piney Branch road, from Vermillion street northward .....                             |                                 |          |          |
| 816                 | Randolph street, crossing North Capitol street .....                                  |                                 |          |          |
| 819                 | Randolph street, crossing First street NW .....                                       |                                 |          |          |
| 818                 | S street NW., between Phelps place and Florida avenue .....                           |                                 |          |          |
| 800                 | Thirty-seventh street, between W and Y streets .....                                  | 27                              |          |          |
| 801                 | Thirty-fourth street, from Newark street northward .....                              | 199                             |          |          |
| 808                 | Third street NW., between Genesee and Kanawha streets .....                           |                                 |          |          |
| 814                 | Block 28, Rosedale and Isherwood subdivision .....                                    |                                 |          |          |
| 820                 | Third and Quincy streets NE. (intersection) .....                                     |                                 |          |          |
| 810                 | W street NE., between Fourth and Fifth streets .....                                  |                                 |          |          |
| 822                 | Wallace street, between Frankfort and Hartford streets .....                          |                                 | 169      |          |
| 823                 | Woodley road, between Thirty-sixth street and Wisconsin avenue                        |                                 | 463      |          |
|                     | Total .....   | 525                             | 1,655    |          |

<sup>1</sup> A waiting bill for repairs to pavements.  
<sup>2</sup> Includes \$8 cost of work by plumber.

2 sewers.

| sewers laid (length in feet). |          |          |          | Man-holes. | Branches. | Cost of materials. | Cost of labor. | Cost of repairs to pavements. | Total cost. |
|-------------------------------|----------|----------|----------|------------|-----------|--------------------|----------------|-------------------------------|-------------|
| h.                            | 18-inch. | 21-inch. | 24-inch. |            |           |                    |                |                               |             |
|                               | 126      |          |          | 1          | 3         | \$102.56           | \$243.73       |                               | \$346.29    |
|                               |          |          |          | 3          | 2         | 191.35             | 255.71         |                               | 447.06      |
|                               | 405      |          |          | 2          | 3         | 280.13             | 574.25         |                               | 854.38      |
|                               | 371      |          |          | 1          | 1         | 241.25             | 335.85         |                               | 577.10      |
|                               |          |          |          | 1          |           | 48.08              | 72.98          |                               | 121.01      |
| 6                             |          |          |          | 1          | 2         | 85.47              | 172.05         |                               | (1)         |
|                               | 63       |          |          | 1          |           | 61.19              | 96.30          |                               | 157.49      |
|                               |          |          |          | 1          | 4         | 61.29              | 131.53         |                               | 192.82      |
|                               |          |          |          | 2          | 1         | 176.17             | 482.41         |                               | 658.58      |
|                               |          |          |          | 2          | 9         | 153.72             | 310.35         |                               | 464.07      |
|                               |          |          |          | 2          | 5         | 88.95              | 2 139.95       |                               | 228.90      |
|                               |          |          |          | 1          | 8         | 96.60              | 139.35         |                               | 235.95      |
| 7                             | 63       |          |          | 1          |           | 94.71              | 158.46         |                               | 3 253.17    |
|                               |          |          |          |            | 4         | 66.72              | 151.76         |                               | 3 218.48    |
| 0                             |          |          |          | 1          |           | 94.65              | 119.55         |                               | (1)         |
|                               |          | 376      |          | 2          | 5         | 358.98             | 483.70         |                               | 842.68      |
|                               | 253      |          |          | 1          | 11        | 182.29             | 342.79         |                               | 525.08      |
|                               | 96       |          |          | 1          |           | 78.21              | 137.03         |                               | 215.24      |
|                               |          |          |          | 1          |           | 94.57              | 169.90         |                               | 264.47      |
| 6                             |          |          |          | 1          |           | 51.10              | 79.25          | \$7.09                        | 137.44      |
|                               |          | 21       |          | 1          |           | 30.69              | 43.28          | 94.58                         | 168.55      |
|                               | 318      |          |          | 2          |           | 226.13             | 375.04         | 20.17                         | 621.34      |
|                               |          |          |          |            |           | 3.83               | 16.85          |                               | 20.68       |
|                               |          |          |          | 1          | 2         | 60.14              | 163.18         |                               | 223.32      |
|                               |          |          |          |            |           | 48.22              | 505.59         |                               | 4 553.81    |
|                               |          |          |          | 1          | 1         | 32.44              | 39.84          |                               | 72.28       |
| 3                             | 42       |          |          | 2          |           | 82.64              | 97.58          |                               | (1)         |
|                               | 63       | 243      | 18       | 3          |           | 316.37             | 415.19         |                               | 731.56      |
|                               |          |          |          | 2          |           | 46.16              | 141.35         |                               | 187.51      |
|                               |          |          |          | 1          | 5         | 156.35             | 643.12         |                               | 799.47      |
| 2                             | 1,800    | 640      | 18       | 39         | 66        | 3,610.96           | 7,037.87       | 121.84                        | 10,118.73   |

Work completed in fiscal year 1902.  
One fish pond, 396 linear feet 4-inch inlet and 284 linear feet 4-inch outlet, constructed.

TABLE 8.—*Miscellaneous appropriations in*

| No. of order |                   |   |
|--------------|-------------------|---|
| 1036         | A street NE, be   |   |
| 1040         | I street SW, ju   |   |
| 1052         | B street NE, be   |   |
| 1050         | C street NW, be   |   |
| 1000         | F street NE, be   |   |
| 1008         | Fifth and G stre  |   |
| 1028         | Fifteenth and I   |   |
|              | corners)          |   |
| 1032         | Fourteenth and    |   |
|              | corners)          |   |
| 1031         | Fourteenth and    |   |
| 1040         | F street NE, be   | 9 |
| 1022         | Sixth street and  |   |
|              | corner)           |   |
| 1027         | Sixteenth and I   |   |
|              | corners)          |   |
| 1034         | Twenty third an   |   |
|              | corners)          |   |
| 1035         | Twenty third an   |   |
|              | west corners)     |   |
| 1048         | Twelfth and Ma    |   |
|              | NE                |   |
| 1047         | Bennings road, j  |   |
| 1053         | Bladensburg roa   |   |
| 1011         | Eighteenth stre   |   |
| 1012         | Nineteenth stre   |   |
|              | corner) ....      |   |
| 1013         | New York aven     |   |
|              | corner) ....      |   |
| 1041         | Q street, just we |   |
| 1014         | Twentieth stre    |   |
|              | corner)           |   |
| 1015         | Twentieth and F   |   |
| 1016         | Twenty-first str  |   |
|              | corner)           |   |
| 1017         | Twenty-first and  |   |
| 1010         | Fortieth and X    |   |
| 1021         | Fifteenth street  |   |
| 1020         | Fourth and F str  |   |
| 1030         | Fourth and Estr   |   |
| 1051         | Fifth and E stre  |   |
| 1032         | Ninth and D stre  |   |
| 1001         | Tenth and D stre  |   |
| 1003         | Twelfth and D s   |   |
| 1004         | Thirteenth and I  |   |
| 1033         | Fortieth street I |   |
|              | street.           |   |
| 1042         | Fortieth and X    |   |
| 1005         | G street NW, be   |   |
| 1009         | Sixth and G stre  |   |
| 1019         | Half and G stree  |   |
| 1018         | First and I stre  |   |
| 1025         | Squares 617 and   |   |
| 1044         | Ninth and E stre  |   |
| 1045         | Ninth and E stre  |   |
| 1046         | Pennsylvania av   |   |
| 1000         | Second and L str  |   |
| 1007         | South Capitol an  |   |
| 1038         | Pennsylvania av   |   |
|              | streets.          |   |
| 1039         | Pennsylvania av   |   |

<sup>1</sup> Work completed in fiscal year 1902.

<sup>2</sup> Constructing drain around chemical engine house, 9 linear feet 4-inch pipe used in addition to pipe in table.

<sup>3</sup> Constructing drain around school building.

<sup>4</sup> Constructing drain around chemical engine house.

# OPERATIONS OF THE ENGINEER DEPARTMENT, D. C. 187

at 1901; work performed by day labor.

| pipe. | Cost of materials. | Cost of labor and contingencies. | Total cost. | Appropriations.                                     |
|-------|--------------------|----------------------------------|-------------|---|
|       | \$103.85           | \$120.24                         | \$224.09    | Repairs to streets, 1901                            |
|       | 18.20              | 24.81                            | 43.01       | Do.   |
|       | 78.90              | 82.30                            | 161.20      | Do.   |
|       | 129.34             | 202.75                           | 331.99      | Do.   |
|       | 94.08              | 109.61                           | 203.69      | Do.   |
|       | 45.62              | 71.99                            | 117.61      | Do.   |
|       | 54.05              | 52.16                            | 106.21      | Do.   |
|       | 52.66              | ■ ■ ■                            | 119.29      | Do.   |
|       | 27.16              | 28.04                            | 55.20       | Do.   |
|       | 50.94              | 53.35                            | 104.29      | Do.   |
|       | 27.59              | 26.79                            | 54.38       | Do.   |
|       | 52.51              | 56.01                            | 108.52      | Do.   |
|       | 65.97              | 56.90                            | 122.87      | Do.   |
|       | 69.71              | 78.04                            | 147.75      | Do.   |
|       | 25.66              | 31.33                            | 57.99       | Do.   |
|       | 20.47              | 42.83                            | 63.30       | Improvements, Benning road, east of Eastern Branch. |
|       |                    | 8.14                             | 8.14        | Bladensburg road, 1901.                             |
|       | 29.69              | 32.87                            | 62.56       | Improvements and repairs, northwest section.        |
|       | 69.50              | 76.27                            | 145.77      | Do.   |
|       | 36.78              | 36.43                            | 73.24       | Do.   |
|       | 8.26               | 5.83                             | 14.09       | Do.   |
|       | 26.43              | 27.92                            | 54.35       | Do.   |
|       | 26.43              | 22.45                            | 48.88       | Do.   |
|       | 32.27              | 35.28                            | 67.55       | Do.   |
|       | 43.35              | 33.81                            | 77.16       | Do.   |
|       | 27.42              | 74.67                            | 102.09      | Buildings, fire department, Tennallytown            |
|       | 117.42             | 222.32                           | 339.74      | Eight room school building site, northeast, 1901    |
|       | 30.29              | 34.15                            | 64.44       | Improvements and repairs, northeast section, 1901.  |
|       | 57.09              | 55.45                            | 112.48      | Do.   |
|       | 52.49              | 50.15                            | 102.64      | Do.   |
|       | 25.64              | 27.34                            | 53.18       | Do.   |
|       | 26.29              | 26.05                            | 52.34       | Do.   |
|       | 17.00              | 24.30                            | 41.30       | Do.   |
|       | 24.23              | 27.37                            | 51.60       | Do.   |
|       | 24.73              | 101.20                           | 125.93      | Chemical Engine Co., Tennallytown, 1901             |
|       | 11.45              | 67.75                            | 79.20       | Do.   |
|       | 153.77             | * 183.51                         | 337.28      | Do. repairs,  |
|       | 51.92              | 67.69                            | 119.61      | Do.   |
|       | 16.66              | 28.09                            | 44.75       | Do. and repairs, 1901                               |
|       | 17.20              | 22.63                            | 39.83       | Do.   |
|       |                    | * 30.22                          | 30.22       | Do. north division,                                 |
|       | 31.92              | 42.03                            | 73.95       | Improvements and repairs, southeast section, 1901.  |
|       | 25.11              | 27.99                            | 53.10       | Do.   |
|       | 6.93               | 8.09                             | 15.02       | Do.   |
|       |                    | 6.13                             | 6.13        | Do.   |
|       | 17.24              | 24.21                            | 41.45       | Do.   |
|       | 45.44              | * 328.61                         | * 374.05    | Emergency fund, 1901.                               |
|       | 1,364.10           | 830.33                           | * 2,194.43  | Maintain public order February and March, 1901.     |

\* Includes \$3.30, cost of work by plumber.

\* Digging test holes.

\* Includes \$57.75, cost of repairs to pavements.

\* Roping off Pennsylvania avenue for centennial parade.

\* Roping off Pennsylvania avenue for inaugural parade.

TABLE 8.—*Miscellaneous appropriations in*

<sup>1</sup> Constructing drain around school building.  
<sup>2</sup> Includes \$18.81, cost of work by plumber.  
<sup>3</sup> Includes \$8.81, cost of work by plumber.



*for year 1901; work performed by day labor—Continued.*

\*

†

1901

1901

\* Constructing basins and 103 linear feet 4-inch drain in yard of Johnson School.  
 † Includes \$10.00, cost of work by plumber.

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**TABLE 9.**—Average cost of materials and labor per linear foot of pipe sewers constructed by day labor, also average cost of basins.

[In this table it is assumed that the cost of materials used in basin connections is the same as that in the same size sewer; it is also assumed that on account of the difference in depth of excavation the cost of labor is half the cost of that of the same size sewer. This table does not embrace the cost of work of exceptionally difficult construction.]

**TABLE 10.**—Number of foremen, inspectors, and other employees of the sewer division, offices of the chief clerk, disbursing officer, inspector of asphalts and cements, and of the engineer stables, temporarily employed, and appropriation from which paid, for year ending June 30, 1901.

| Class.           | Number employed. | Cleaning and repairing sewers and basins. | Replacing obstructed sewers. | Main and pipe sewers. | Suburban sewers. | Assessment permit and whole cost. | Preparation, plans, and specifications, sewage-disposal system. |
|------------------|------------------|---|------------------------------|-----------------------|------------------|-----------------------------------|---|
| Foremen.....     | 11               | \$6,174.67                                | \$567.00                     | \$1,246.00            | \$467.50         | \$1,992.50                        | \$303.50  |
| Inspectors.....  | 16               | 104.00                                    | 44.00                        | 1,036.00              | 1,356.00         | 197.00                            | .....   |
| Other employees. | 343              | 27,233.06                                 | 8,419.74                     | 19,731.32             | 8,212.31         | 26,458.56                         | 8,908.97  |
| Total.....       | .....            | 33,501.68                                 | 9,030.74                     | 22,013.32             | 9,925.81         | 28,648.06                         | 9,302.47  |

| Class.          | Arizona avenue sewer. | Automatic flushing tanks. | East side intercepting Twelfth street SE. and pumping station. | East side intercepting Twenty second and A streets NE. and Twelfth street SE. | Tiber Creek and New Jersey avenue high-level intercepting sewer. | L street sewer. | Sewage pumping plant. | Extension boundary sewer. | Repairs to streets. |
|-----------------|-----------------------|---------------------------|--|---|--|-----------------|-----------------------|---------------------------|---------------------|
| Foremen.....    | \$109.00              | \$41.00                   | .....  | .....   | .....  | .....           | .....                 | .....                     | \$91.00             |
| Inspectors..... | 804.00                | .....                     | \$1,448.50   | \$1,511.50  | \$2,034.00   | \$720.00        | \$423.50              | \$312.00                  | .....               |
| Other employees | 1,230.84              | 375.25                    | 903.25   | 941.17  | 564.70   | 705.88          | 941.17                | .....                     | 779.39              |
| Total.....      | 2,133.84              | 416.25                    | 2,351.75   | 2,452.67  | 2,598.70   | 1,425.88        | 1,364.67              | 312.00                    | 869.39              |

| Class.          | Improving Benning road, east of Eastern Branch. | Bladensburg road. | Improvements and repairs, NW. section. | Buildings for fire department, Ten-nally-town. | Eight-room school building site, NE. section. | Improvements and repairs NE. section. | Chemical engine company, Ten-nally-town. | Improvements and repairs, widening G street. | Improvements and repairs, SW. section. |
|-----------------|---|-------------------|--|--|---|---------------------------------------|--|--|--|
| Foremen.....    | \$4.00  | \$1.00            | \$19.00                                | \$8.00   | \$15.00                                       | \$30.00                               | \$5.00                                   | \$17.00                                      | \$5.00                                 |
| Other employees | 36.82   | 61.65             | 214.30                                 | 61.81  | 191.14  | 238.47                                | 65.27                                    | 219.14                                       | 42.69                                  |
| Total.....      | 39.82   | 62.65             | 233.30                                 | 69.81  | 206.14  | 268.47                                | 70.27                                    | 236.14                                       | 47.69                                  |

TABLE 10.—Number of foremen, inspectors, and other employees, etc.—Continued.

|  | Grading and improvement, Crescent street | Improvements and repairs, Georgetown. | Repairs and improvements, school buildings and grounds. |
|--|--|---------------------------------------|---|
|  | \$2.00                                   | 35.00                                 | \$10.00   |
|  | 22.81                                    | 59.35                                 | 68.54   |
|  | 24.81                                    | 64.35                                 | 78.54   |

TABLE 11.—Amount of conduits laid from March 27, 1900, to June 30, 1901.

| No. of duct. | United States Electric Lighting Co. |        | Chesapeake and Potomac Telephone Co. <sup>1</sup> |       | Potomac Electric Power Co. |        |
|--------------|-------------------------------------|--------|---|-------|----------------------------|--------|
|              | Conduit.                            | Duct.  | Conduit.  | Duct. | Conduit.                   | Duct.  |
|              | Feet.                               | Feet.  | Feet.   | Feet. | Feet.                      | Feet.  |
| 1            |                                     |        |   |       |                            |        |
| 2            |                                     |        | 677   | 1,354 |                            |        |
| 4            | 13,836                              | 55,344 | 124   | 496   | 2,450                      | 9,800  |
| 8            | 30                                  | 240    |   |       | 71                         | 568    |
| 22           |                                     |        | 20  | 640   |                            |        |
| 40           |                                     |        | 55  | 2,200 |                            |        |
| Total        | 13,866                              | 55,584 | 876   | 4,690 | 2,521                      | 10,368 |

| No. of duct. | Brightwood Railway Co. |       | District of Columbia. |       | Private conduits. |       |
|--------------|------------------------|-------|-----------------------|-------|-------------------|-------|
|              | Conduit.               | Duct. | Conduit.              | Duct. | Conduit.          | Duct. |
|              | Feet.                  | Feet. | Feet.                 | Feet. | Feet.             | Feet. |
| 1            |                        |       | 2,913                 | 2,913 | 30                | 30    |
| 2            |                        |       |                       |       | 257               | 454   |
| 4            |                        |       |                       |       |                   |       |
| 8            | 88                     | 704   |                       |       |                   |       |
| 22           |                        |       |                       |       |                   |       |
| 40           |                        |       |                       |       |                   |       |
| Total        | 88                     | 704   | 2,913                 | 2,913 | 257               | 484   |

<sup>1</sup> For house connections only.

NUMBER OF MANHOLES AND HAND-HOLES BUILT

|  | Manholes. | Hand-holes. |
|--|-----------|-------------|
| United States Electric Lighting Co                 | 79        | 271         |
| Potomac Electric Power Co                          | 18        | 43          |
| Chesapeake and Potomac Telephone Co                | 8         |             |
| District of Columbia                               |           |             |
| Washington, Alexandria and Mount Vernon Railway Co | 1         |             |
| Brightwood Railway Co                              | 1         | 1           |
| Metropolitan Railroad Co                           | 2         |             |
| City and Suburban Railway Co                       | 2         |             |
| Total  | 100       | 315         |

TABLE 11.—Amount of conduits laid, etc.—Continued.

SUMMARY OF CONDUITS IN USE JUNE 30, 1901.

| No. of duct. | United States Electric Light-<br>ing Co. |           | Chesapeake and Potomac Tele-<br>phone Co. |         | Potomac Electric Power Co. |         |
|--------------|--|-----------|---|---------|----------------------------|---------|
|              | Conduit.                                 | Duct.     | Conduit.                                  | Duct.   | Conduit.                   | Duct.   |
|              | Feet.                                    | Feet.     | Feet.                                     | Feet.   | Feet.                      | Feet.   |
| 1            | 26,177                                   | 26,177    | 15,506                                    | 15,506  | 1,557                      | 1,557   |
| 2            | 128,126                                  | 256,252   | 4,354                                     | 8,708   | 706                        | 1,538   |
| 3            | 236                                      | 708       |   |         |                            |         |
| 4            | 73,209                                   | 292,836   | 600                                       | 2,640   | 6,019                      | 24,076  |
| 6            | 35,461                                   | 212,766   | 23,185                                    | 139,110 | 9,488                      | 54,928  |
| 7            |  |           | 82  | 574     |                            |         |
| 8            | 11,352                                   | 90,816    | 18,090                                    | 144,720 | 8,634                      | 69,072  |
| 9            |  |           | 114                                       | 1,026   | 7,288                      | 65,392  |
| 10           | 88                                       | 880       |   |         |                            |         |
| 12           | 1,491                                    | 17,892    | 4,963                                     | 59,556  | 37,979                     | 455,748 |
| 13           |  |           | 212                                       | 2,756   | 374                        | 4,908   |
| 14           | 1,224                                    | 18,126    |   |         |                            |         |
| 15           | 68                                       | 1,020     |   |         |                            |         |
| 16           | 2,793                                    | 44,688    | 5,825                                     | 93,200  | 1,314                      | 21,084  |
| 17           |  |           | 636                                       | 10,812  |                            |         |
| 18           |  |           | 1,576                                     | 28,368  |                            |         |
| 20           |  |           | 26  | 520     | 85                         | 1,700   |
| 22           |  |           |   |         |                            |         |
| 24           | 2,099                                    | 50,876    | 2,072                                     | 49,728  |                            |         |
| 25           |  |           | 304                                       | 7,600   |                            |         |
| 26           |  |           |   |         |                            |         |
| 28           |  |           |   |         |                            |         |
| 30           | 53                                       | 1,590     |   |         |                            |         |
| 32           |  |           | 485                                       | 15,520  |                            |         |
| 36           | 3,854                                    | 138,744   | 26  | 936     |                            |         |
| 40           |  |           | 1,569                                     | 63,560  |                            |         |
| 44           |  |           |   |         | 424                        | 18,056  |
| 56           |  |           | 749                                       | 41,944  |                            |         |
| 58           |  |           |   |         | 7                          | 408     |
| 64           | 106                                      | 6,784     | 176                                       | 11,264  |                            |         |
| 72           |  |           | 76  | 5,472   |                            |         |
| Total        | 286,837                                  | 1,159,665 | 80,796                                    | 708,610 | 73,935                     | 721,253 |

| No. of duct. | Brightwood Rail-<br>way Co. |       | District of Co-<br>lumbia. |       | Private conduits. |       |
|--------------|-----------------------------|-------|----------------------------|-------|-------------------|-------|
|              | Conduit.                    | Duct. | Conduit.                   | Duct. | Conduit.          | Duct. |
|              | Feet.                       | Feet. | Feet.                      | Feet. | Feet.             | Feet. |
| 1            |                             |       | 464                        |       | 30                | 30    |
| 2            | 13                          | 26    | 80                         |       | 227               | 454   |
| 3            |                             |       |                            |       |                   |       |
| 4            |                             |       | 44                         |       |                   |       |
| 6            |                             |       | 711                        |       |                   |       |
| 7            |                             |       |                            |       |                   |       |
| 8            | 176                         | 1,408 |                            |       |                   |       |
| 9            |                             |       |                            |       |                   |       |
| 10           |                             |       |                            |       |                   |       |
| 12           |                             |       |                            |       |                   |       |
| 13           |                             |       |                            |       |                   |       |
| 14           |                             |       |                            |       |                   |       |
| 15           |                             |       |                            |       |                   |       |
| 16           |                             |       |                            |       |                   |       |
| 17           |                             |       |                            |       |                   |       |
| 18           |                             |       |                            |       |                   |       |
| 20           |                             |       |                            |       |                   |       |
| 22           |                             |       |                            |       |                   |       |
| 24           |                             |       |                            |       |                   |       |
| 25           |                             |       |                            |       |                   |       |
| 26           |                             |       |                            |       |                   |       |
| 28           |                             |       |                            |       |                   |       |
| 30           |                             |       |                            |       |                   |       |
| 32           |                             |       |                            |       |                   |       |
| 36           |                             |       |                            |       |                   |       |
| 40           |                             |       |                            |       |                   |       |
| 44           |                             |       |                            |       |                   |       |
| 56           |                             |       |                            |       |                   |       |
| 58           |                             |       |                            |       |                   |       |
| 64           |                             |       |                            |       |                   |       |
| 72           |                             |       |                            |       |                   |       |
| Total        | 189                         | 1,434 | 1,299                      |       | 257               | 484   |

TABLE 11.—*Amount of conduits laid, etc.*—Continued.

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| Name of school,          | Amount expended. | Name of school.                    | Amount expended. |
|--------------------------|------------------|------------------------------------|------------------|
| <b>Third division:</b>   |                  | <b>Seventh division—Continued.</b> |                  |
| Hilton .....             | \$374.35         | Brookland .....                    | \$328.68         |
| Maury .....              | 655.80           | Ivy City .....                     | 148.50           |
| Wallach .....            | 501.80           | Monroe .....                       | 445.80           |
| Brent .....              | 159.56           | Total .....                        | 2,718.14         |
| Carbery .....            | 523.90           |                                    |                  |
| Lenox .....              | 355.12           | <b>Eighth division:</b>            |                  |
| Towers .....             | 324.81           | Tyler .....                        | 157.48           |
| Peabody .....            | 965.16           | Buchanan .....                     | 308.40           |
| McCormick .....          | 108.67           | Cranch .....                       | 214.59           |
| Total .....              | 4,263.17         | Van Buren .....                    | 355.90           |
|                          |                  | Van Buren Annex .....              | 90.45            |
| <b>Fourth division:</b>  |                  | Congress Heights .....             | 126.80           |
| Greenleaf .....          | 185.48           | Garfield .....                     | 79.22            |
| Potomac .....            | 221.78           | Good Hope .....                    | 48.05            |
| Smallwood .....          | 85.53            | Birney .....                       | 196.03           |
| Amidon .....             | 154.32           | Burrville .....                    | 168.66           |
| Bradley .....            | 499.12           | Bennings .....                     | 46.70            |
| Jefferson .....          | 1,456.02         | Bennings Road .....                | 32.25            |
| Total .....              | 2,602.25         | Hubbard .....                      | 968.25           |
|                          |                  | Total .....                        | 2,792.89         |
| <b>Fifth division:</b>   |                  |                                    |                  |
| Grant .....              | 870.91           | <b>Ninth division:</b>             |                  |
| Fillmore .....           | 46.45            | Briggs .....                       | 346.87           |
| Curtis .....             | 1,125.06         | Sunner .....                       | 1,185.35         |
| Threlkeld .....          | 169.90           | Magruder .....                     | 476.22           |
| Corcoran .....           | 149.85           | Stevens .....                      | 551.80           |
| Addison .....            | 399.64           | Phillips .....                     | 82.89            |
| Jackson .....            | 73.75            | Garrison .....                     | 290.47           |
| Weightman .....          | 227.75           | Wormley .....                      | 112.40           |
| Toner .....              | 84.50            | Total .....                        | 3,046.00         |
| High Street .....        | 128.22           |                                    |                  |
| Total .....              | 3,276.03         | <b>Tenth division:</b>             |                  |
|                          |                  | Cook .....                         | 226.98           |
| <b>Sixth division:</b>   |                  | Garnet .....                       | 1,304.59         |
| Arthur .....             | 553.87           | Patterson .....                    | 140.70           |
| Blake .....              | 172.48           | Slater .....                       | 538.66           |
| Hayes .....              | 482.94           | Bannaker .....                     | 663.80           |
| Blair .....              | 470.47           | Jones .....                        | 285.86           |
| Madison .....            | 606.46           | Douglas .....                      | 128.81           |
| Pierce .....             | 144.91           | Logan .....                        | 723.56           |
| Taylor .....             | 182.05           | Total .....                        | 4,012.86         |
| Hamilton .....           | 168.58           |                                    |                  |
| Langdon .....            | 114.25           | <b>Eleventh division:</b>          |                  |
| Gales .....              | 398.20           | Lincoln .....                      | 384.20           |
| Total .....              | 3,294.21         | Randall .....                      | 296.90           |
|                          |                  | Bell .....                         | 300.24           |
| <b>Seventh division:</b> |                  | Giddings .....                     | 241.11           |
| Reservoir .....          | 65.80            | Bowen .....                        | 21.28            |
| Chain Bridge .....       | 18.50            | Ambush .....                       | 397.34           |
| Conduit Road .....       | 23.50            | Lovejoy .....                      | 4.40             |
| Tenley .....             | 372.84           | Payne .....                        | 291.71           |
| Chevy Chase .....        | 26.91            | Total .....                        | 1,937.18         |
| Grant Road .....         | 19.00            |                                    |                  |
| Brightwood .....         | 80.00            | <b>High schools:</b>               |                  |
| Brightwood Road .....    | 49.50            | Central .....                      | 2,236.14         |
| Johnson .....            | 478.28           | Western .....                      | 1,124.28         |
| Johnson Annex .....      | 92.95            | Eastern .....                      | 550.84           |
| Wilson .....             | 130.96           | Business .....                     | 322.82           |
| Mott .....               | 264.46           | Colored .....                      | 546.98           |
| Bruce .....              | 142.26           | Total .....                        | 4,781.06         |
| Fort Slocum .....        | 20.00            |                                    |                  |
| Woodburn .....           | 17.70            |                                    |                  |

SUMMARY.

|  |             |
|--|-------------|
| Total accounted for .....              | \$43,204.15 |
| Horse and driver .....                 | 707.60      |
| Office salaries .....                  | 2,003.75    |
| Salary of inspector of janitors .....  | 646.75      |
| Hardware, lumber, etc., in stock ..... | 2,000.00    |
| Miscellaneous and emergency work ..... | 1,437.75    |
| Total .....                            | 50,000.00   |

154      OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

One hundred and ten school buildings, city and suburban, received attention, but on account of the limited appropriation all the requests of each school could not be met, only the most pressing needs being cared for.

Two hundred and fifteen orders were given for repairs to plumbing, amounting to \$2,435.16 (charged to "Repairs to plumbing public schools, 1901").

The appropriation of \$4,500 for "Repairs to engine houses, 1901," was expended as follows:

|                    |          |                     |          |
|--------------------|----------|---------------------|----------|
| Engine No. 1.....  | \$414.09 | Engine No. 12.....  | \$306.77 |
| Engine No. 2.....  | 41.03    | Engine No. 13.....  | 112.19   |
| Engine No. 4.....  | 97.68    | Engine No. 14.....  | 32.33    |
| Engine No. 5.....  | 116.81   | Engine No. 15.....  | 202.96   |
| Engine No. 6.....  | 263.16   | Chemical No. 1..... | 74.21    |
| Engine No. 7.....  | 337.92   | Truck A.....        | 70.63    |
| Engine No. 8.....  | 306.01   | Truck B.....        | 93.33    |
| Engine No. 9.....  | 220.68   | Truck C.....        | 19.12    |
| Engine No. 10..... | 176.49   | Truck D.....        | 410.20   |
| Engine No. 11..... | 470.65   | Truck E.....        | 21.00    |

SUMMARY.

|                                   |            |
|-----------------------------------|------------|
| Total accounted for.....          | \$3,933.80 |
| Office salaries and supplies..... | 110.00     |
| Extra and emergency work.....     | 401.41     |
| Total.....                        | 4,500.00   |

These repairs consisted in part of new granolithic floors, new stalls, plumbing, tinning, painting, and carpentering, but here, also, owing to the small appropriation, all the houses could not be repaired in a thorough manner.

The appropriation of \$5,000 for "Repairs to police stations, 1901," was expended as follows:

|                    |          |                           |          |
|--------------------|----------|---------------------------|----------|
| Station No. 1..... | \$234.69 | Station No. 6.....        | \$156.85 |
| Station No. 2..... | 703.29   | Station No. 7.....        | 383.83   |
| Station No. 3..... | 994.01   | Station No. 8.....        | 322.39   |
| Station No. 4..... | 879.10   | Station No. 9.....        | 421.42   |
| Station No. 5..... | 306.74   | Anacostia Substation..... | 27.00    |

SUMMARY.

|                                 |            |
|---------------------------------|------------|
| Total accounted for.....        | \$3,934.32 |
| Salaries and stock on hand..... | 350.00     |
| Extra and emergency work.....   | 715.68     |
| Total.....                      | 5,000.00   |

The repairs here made were mainly of the same character as those for schools and engine houses.

The appropriation of \$2,250 for "Repairs to markets, 1901," was expended as follows:

|                 |          |
|-----------------|----------|
| Eastern.....    | \$350.32 |
| Western.....    | 1,398.33 |
| Georgetown..... | 17.95    |

SUMMARY.

|                                 |            |
|---------------------------------|------------|
| Total accounted for.....        | \$1,775.00 |
| Extra and emergency work.....   | 324.40     |
| Salaries and stock on hand..... | 150.00     |
| Total.....                      | 2,250.00   |

In addition to the work done under the above-mentioned appropriations, the annual appropriation of \$800 was expended on repairs to the Police Court. Repairs were also made at the Smallpox Hospital, District of Columbia Building, Industrial Home School, Property Yards, House of Detention, etc., amounting to more than \$3,000.

Respectfully,

G. B. COLEMAN,  
*Superintendent of Repairs.*

Capt. LANSING H. BEACH,  
*Corps of Engineers, U. S. A.,*  
*Engineer Commissioner District of Columbia.*  
(Through Captain Harding.)















T OF THE ASSISTANT ENGINEER IN CHARGE OF STREET  
EXTENSIONS.

WASHINGTON, August 7, 1901.

s: I have the honor to submit the following report of the work of this  
the fiscal year ended June 30, 1901:

rk of preparing plans for a permanent system of highways having been  
uring the latter part of the fiscal year 1900, it was then found necessary  
the street-extension force, and during the past year the work of this  
been done by myself and one assistant. All field work pertaining to the  
t system of high ways is now performed by the surveyor of the District  
ia, and the preparation of maps and data for condemnation proceedings  
based on surveys formerly made under my directions.

the past year juries have passed and reported on the following exten-  
authorized by various acts: Columbia road extended east of Thirteenth  
e widening of Columbia road and old Sixteenth street; the extension of  
a street; the extension of Howard avenue; the extension of Sixteenth  
n Morris street to the District line.

ints, special maps, and calculations relating to these extensions were pre-  
his office for the use of the juries in these proceedings.

tudies relating to proposed highways or the opening of new streets have  
e from time to time as circumstances have required.

maps drawn to a scale of 1 inch to 100 feet, which were formerly com-  
i surveys of this office and from records in the office of the surveyor,  
f Columbia, have been brought to date and a contract made for litho-  
75 of the number.

owing table is submitted as information relating to the condemnation  
streets and avenues covering a period of the last two fiscal years.

y respectfully,

WM. P. RICHARDS,  
Assistant Engineer.

ANSING H. BEACH,  
ineer Commissioner District of Columbia.

Street extension condemnations for two years.

| ay.                            | Act.                               | Date of<br>award. | Date of<br>confr-<br>mation. | Damages.     | Benefits.   | Court<br>file. |
|--------------------------------|------------------------------------|-------------------|------------------------------|--------------|-------------|----------------|
| id ave-                        | No. 43, approved Feb. 10,<br>1899. | 1899.<br>Dec. 1   | 1900.<br>Jan. 27             | \$96,617.00  | \$48,308.50 | 544            |
| street.                        | No. 73, approved Feb. 25,<br>1899. | Feb. 25           | 1899.<br>Oct. 30             | 64,000.00    | 32,000.00   | 537            |
| -sec-<br>Deca-<br>s.<br>street | No. 195, approved Mar. 3,<br>1899. | Aug. 30           | Nov. 18                      | 52,000.00    | 26,000.00   | 549            |
| street                         | No. 225, approved Mar. 3,<br>1899. | June 12           | July 21                      | 7,000.00     | 3,500.00    | 546            |
| rect...                        | No. 195, approved Mar. 3,<br>1899. | 1900.<br>Feb. 16  | 1900.<br>July 3              | 260,120.00   | 134,565.00  | 556            |
| venue..                        | No. 225, approved Mar. 3,<br>1899. | May 1             | ( <sup>1</sup> )             | 154,587.00   | 77,293.50   | 555            |
| pshire                         | No. 195, approved Mar. 3,<br>1895. | June 2            | 1901.<br>July 8              | 100,791.96   | 50,395.00   | 557            |
| road<br>Thir-<br>reet.         | No. 181, approved June 6,<br>1900. | Aug. 1            | Mar. 20                      | 29,612.64    | 14,830.00   | 574            |
| street<br>umbia                | No. 182, approved June 6,<br>1900. | Sept. 27          | July 9                       | 181,858.00   | 90,929.00   | 577            |
| street..                       | No. 225, approved Mar. 3,<br>1899. | Oct. 5            | June 5                       | 5,687.50     | 2,166.35    | 552            |
| venue ..                       | do .....                           | Nov. 8            | June 27                      | 6,462.00     | 3,526.00    | 547            |
| street                         | No. 195, approved Mar. 3,<br>1899. | 1901.<br>May 27   | .....                        | 729,952.29   | 108,834.75  | 580            |
| ia ave-                        | No. 225, approved Mar. 3,<br>1899. | July 24           | ( <sup>2</sup> )             | 1,939.00     | 1,019.00    | 551            |
| .....                          | do .....                           | .....             | .....                        | .....        | .....       | 554            |
| .....                          | .....                              | .....             | .....                        | 1,609,627.39 | .....       | .....          |

<sup>1</sup> Hearing Sept. 6. <sup>2</sup> Hearing Sept. 16.

# 162 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

## REPORT OF THE SUPERINTENDENT OF PROPERTY.

WASHINGTON, August 23, 1901.

CAPTAIN: I have the honor to forward herewith detailed statements, as of July 1, 1901, showing the operation of the property division for the fiscal year ending June 30, as follows:

|  |              |
|--|--------------|
| 1. Construction materials purchased.....   | \$301,385.22 |
| 2. Miscellaneous purchases.....  | 88,201.27    |
| 3. List of employees, other than those on the per annum rolls, and amounts paid to each from various appropriations..... | 19,238.14    |
| Total.....   | \$408,824.63 |

Deliveries under contracts for furnishing curbing, sewer pipe, vitrified paving blocks, vitrified invert sewer bricks, paving and concrete and screened sand, screened gravel and natural cement are still in course of execution. The reports to these items is therefore incomplete.

Very respectfully,

R. D. SUMM,  
Superintendent of Property.

Capt. LANSING H. BEACH,  
Corps of Engineers, U. S. A.,  
Engineer Commissioner District of Columbia.

STATEMENT NO. 1.—Showing amount of construction materials purchased and issued from the District of Columbia property yards during the year ending June 30, 1901.





164      OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

STATEMENT NO. 3.—*Showing list of employees, etc.*—Continued.

STATEMENT NO. 8.—Showing list of employees, etc.—Continued.

|                         | Rate.                | Repairs and im-<br>provements<br>to school<br>build-<br>ings and<br>grounds. | School<br>build-<br>ings. | Special<br>repairs<br>to<br>market<br>houses. | Repairs<br>to police<br>stations. | Repairs<br>to engine<br>houses. | Repairs<br>to police<br>court. | Work-<br>house<br>for<br>males. |
|-------------------------|----------------------|--|---------------------------|---|-----------------------------------|---------------------------------|--------------------------------|---------------------------------|
| R. D. Simms .....       | \$5.00               | \$65.00  | .....                     | .....   | .....                             | .....                           | .....                          | .....                           |
| C. T. Shoemaker .....   | 4.50                 | 58.50  | .....                     | .....   | .....                             | .....                           | .....                          | .....                           |
| J. A. McDannel .....    | 4.00                 | 52.00  | .....                     | .....   | .....                             | .....                           | .....                          | .....                           |
| H. M. Spencer .....     | 4.00                 | 52.00  | .....                     | .....   | .....                             | .....                           | .....                          | .....                           |
| W. H. Edgar .....       | 8.50                 | .....  | \$45.50                   | .....   | .....                             | .....                           | .....                          | .....                           |
| H. B. vander Las .....  | 2.50                 | .....  | 32.50                     | .....   | .....                             | .....                           | .....                          | .....                           |
| Edward Morris .....     | 2.50                 | .....  | 32.50                     | .....   | .....                             | .....                           | .....                          | .....                           |
| William Donaldson ..... | 4.00                 | 12.00  | .....                     | .....   | .....                             | .....                           | .....                          | .....                           |
| H. M. Dickinson .....   | 8.25                 | .....  | 42.25                     | .....   | .....                             | .....                           | .....                          | .....                           |
| W. J. W. Grey .....     | 3.00                 | .....  | 59.00                     | .....   | .....                             | .....                           | .....                          | 20.00                           |
| W. H. Voss .....        | 3.00                 | .....  | .....                     | .....   | .....                             | .....                           | .....                          | 39.00                           |
| G. T. Hammer .....      | 2.00                 | 26.00  | 26.00                     | .....   | .....                             | .....                           | .....                          | .....                           |
| Blacksmiths .....       | 3.25<br>1.75<br>2.00 | .....  | 68.25                     | .....   | \$24.00                           | .....                           | .....                          | .....                           |
| Laborers .....          | 1.75<br>1.50         | 7.88   | 160.00                    | \$10.59                                       | .....                             | \$22.00                         | \$3.50                         | 1.00                            |
| Total .....             | .....                | 273.38   | 466.00                    | 10.59   | 24.00                             | 22.00                           | 3.50                           | 60.00                           |

|                         | Rate.                | Exten-<br>sion of<br>high-<br>service<br>system. | Pump-<br>ing ex-<br>pense<br>and pipe<br>distribu-<br>tion. | Contin-<br>gent ex-<br>pense,<br>engineer<br>stable. | Contin-<br>gent ex-<br>pense,<br>parking<br>commis-<br>sion. | Street<br>lighting. | Main-<br>taining<br>public or-<br>der, Feb.<br>and Mar.,<br>1901. | Totals.    |
|-------------------------|----------------------|--|---|--|--|---------------------|---|------------|
| R. D. Simms .....       | \$5.00               | \$135.00   | \$80.00   | .....  | .....  | .....               | .....   | \$1,560.00 |
| C. T. Shoemaker .....   | 4.50                 | 121.50   | 54.00   | .....  | .....  | .....               | .....   | 1,404.00   |
| J. A. McDannel .....    | 4.00                 | 108.00   | 48.00   | .....  | .....  | .....               | .....   | 1,232.00   |
| H. M. Spencer .....     | 4.00                 | 108.00   | 48.00   | .....  | .....  | .....               | .....   | 1,248.00   |
| W. H. Edgar .....       | 8.50                 | 94.50  | 42.00   | .....  | .....  | .....               | .....   | 1,092.00   |
| H. B. vander Las .....  | 2.50                 | 67.50  | 30.00   | .....  | .....  | .....               | .....   | 765.00     |
| Edward Morris .....     | 2.50                 | 35.00  | 30.00   | .....  | .....  | .....               | .....   | 371.25     |
| William Donaldson ..... | 4.00                 | 160.00   | 48.00   | .....  | .....  | .....               | .....   | 1,248.00   |
| H. M. Dickinson .....   | 8.25                 | 87.75  | 81.25   | .....  | \$42.25  | .....               | .....   | 1,010.80   |
| W. J. W. Grey .....     | 3.00                 | 41.00  | 75.00   | .....  | .....  | .....               | .....   | 870.00     |
| W. H. Voss .....        | 3.00                 | 81.00  | 36.00   | .....  | .....  | .....               | .....   | 897.00     |
| G. T. Hammer .....      | 2.00                 | 28.00  | 24.00   | .....  | .....  | .....               | .....   | 598.96     |
| Blacksmiths .....       | 3.25<br>1.75<br>2.00 | 186.00   | 14.70   | \$337.42   | .....  | \$68.25             | \$35.11   | 1,566.64   |
| Laborers .....          | 1.75<br>1.50         | 598.28   | 69.50   | .....  | 5.50   | 106.75              | 39.79   | 5,365.50   |
| Total .....             | .....                | 1,849.51   | 660.45  | 337.42   | 47.75  | 175.00              | 74.90   | 19,229.14  |

## REPORT OF THE PERMIT CLERK.

WASHINGTON, *July 30, 1901*

CAPTAIN: Permits issued during the fiscal year ended June 30, 1901, were:

|   |       |
|---|-------|
| Water connections   | 1,362 |
| Water repairs   | 905   |
| Water specials  | 291   |
| Sewer connections   | 1,446 |
| Sewer repairs   | 1,044 |
| Sewer specials  | 878   |
| Gas and electric light connections                        | 946   |
| Gas and electric light repairs                            | 180   |
| Gas and electric light specials                           | 19    |
| Gas mains, lay  |       |
| Electric conduits, construct and extend                   |       |
| Electric conduits, connect with telephone                 |       |
| Electric conduits, replace cables in                      |       |
| Electric railroad conduits, connect with sewers           |       |
| Electric conduits, lay private in alley                   |       |
| Catch basins, build on electric railroad                  |       |
| Carriage stop, place at curb                              |       |
| Conduits, lower and repair (United States)                |       |
| Copings, erect and repair on parkings                     |       |
| Derricks, operate and guy in roadway                      |       |
| Drain pipes, lay and clear                                |       |
| Fences, erect to inclose parkings                         |       |
| Fences, repair to inclose parkings                        |       |
| Excavations, make in public space                         |       |
| Engines and steam shovels, move over streets              |       |
| Flagging stone, lay in public space                       |       |
| Fire hydrants, use  |       |
| Driveways across sidewalk, construct and repair           |       |
| Gas service pipe, extend from building line               |       |
| Guard stones, place in alley                              |       |
| Hand rail, place on terrace steps                         |       |
| Hitching posts, place at curb                             |       |
| Hitching rings, place in curb                             |       |
| Leads, lay across parkings                                |       |
| Leads, repair across parkings                             |       |
| Lights, hang electric and gas                             |       |
| Manhole, build on electric railway                        |       |
| Material, take from and fill in public space              |       |
| Oil pipes, lower  |       |
| Parkings, grade   |       |
| Parkings, lay, remove, repair or replace pavement         |       |
| Parking, place platform on                                |       |
| Pipes, lay under sidewalks                                |       |
| Poles, erect, replace, and remove telegraph and telephone |       |
| Roadways, pave, grade, and repair, etc                    |       |
| Sewage-disposal plant, construct                          |       |
| Sewer, enter  |       |
| Sidewalks, haul across                                    |       |
| Sidewalks, repair   |       |
| Sidewalks, occupy for business purposes                   |       |
| Steps on parkings, erect, replace, or repair              |       |
| Stop-cock boxes, gas, adjust to grade                     |       |
| Sockets, sink in sidewalk                                 |       |
| Track, lay temporary for loading cars                     |       |
| Vaults, repair and replace cover                          |       |
| Walls, build retaining, on parkings                       |       |
| Water tables, lay and repair                              |       |
| Wires, string   |       |
| Wires, overhead connections (U. S. E. and P. E. P. Co.'s) |       |
| Wires, overhead telephone connections                     |       |



## REPORT OF THE CHIEF CLERK.

WASHINGTON, July 1, 1901.

CAPTAIN: I have the honor to submit the following report for the fiscal year ended June 30, 1901:

|  |        |
|--|--------|
| Communications received, briefed, and recorded . . . . . | 11,915 |
| Indorsements, references, and reports thereon . . . . .  | 56,573 |
| Letters and orders prepared . . . . .                    | 5,049  |
| Copies of contracts drawn . . . . .                      | 616    |
| Vouchers and bills prepared and forwarded . . . . .      | 5,904  |

Schedules of bids received during the fiscal year for work and materials under the engineer office, and statement of contracts for street improvements, sewers, construction materials, and miscellaneous work are herewith.

Very respectfully,

A. Y. LAKEMAN,

Chief Clerk, Engineer Department, District of Columbia.

Capt. LANSING H. BEACH,

Corps of Engineers, U. S. A.,

Engineer Commissioner District of Columbia.

Statement of contracts for the construction of sewers for the fiscal year 1901.

| No.  | Date.          | Name and address of contractor.           | Location.  | To construct—                           |
|------|----------------|---|--|---|
| 2829 | Aug. 4, 1900   | Andrew Gleeson . . . .                    | Piney Branch Valley, between Fifth and Chesapeake and Piney Branch road and Vermillion street.   | Pipe sewers.                            |
| 2837 | Aug. 11, 1900  | Warren F. Brenizer.                       | Arizona avenue, between Canal road and New Cut road, and also north from New Cut road.   | Circular sewers.                        |
| 2841 | Aug. 13, 1900  | Adam McCandlish . . . .                   | Sixteenth street NW., between K and L; K street NW., between Fifteenth and Sixteenth; Nineteenth street NW., between Q and R; Potomac Park, between river and Twenty-sixth street; Twenty-sixth street NW., between Water and D streets. | Pipe sewers.                            |
| 2870 | Sept. 26, 1900 | P. D. Vinson . . . . .                    | Eighteenth street NW., between Q and Corcoran; New Hampshire avenue, between Corcoran and Riggs; S street NW., between Fourteenth and Fifteenth; Fourteenth street NW., between R and S; L street NW., between Sixteenth and Twentieth.  | Pipe and brick sewers.                  |
| 2880 | Dec. 18, 1900  | John Jacoby, Wilmington, Del.             | From Seventeenth and E, NE., to near Twenty-first and A, NE.   | Brick sewers.                           |
| 2883 | Jan. 31, 1901  | Andrew Gleeson, Washington, D. C.         | Tiber Creek and New Jersey avenue high-level intercepting sewer.   | Gates, connections, and outlet section. |
| 2908 | Apr. 27, 1901  | { J. P. Larguey, Washington, D. C.        | { Nourse road, from Klinge Ford bridge to Connecticut avenue.  | 15-inch pipe sewer.                     |
| 2900 | .....do.....   | { M. F. McNamara & Co., Washington, D. C. | { Twenty-fourth street NW., between Massachusetts avenue and Bancroft street.  | 2.50 by 3.75 egg-shaped sewer.          |
| 2910 | Apr. 29, 1901  | J. Jacoby, Wilmington, Del.               | Connecticut avenue, from Nourse road to Pierce Mill road.  | Sewers.                                 |
| 2930 | June 28, 1901  | R. A. Malone & Co., Lancaster, Pa.        | Howard avenue, Barry farm, from Anacostia River to Nicholas avenue and along Nicholas avenue northward.  | Sewer.                                  |
|      |                |   | Hartford street, between Seventh and Ninth, NE.; and in Seventh, between Galena and Hartford streets; also in Arizona avenue, north of New Cut road.   | Sewers.                                 |











*Schedule of proposals for construction of sewers, opened September 8, 1900.*

SEWER A.

ateenth street NW. between Q and Corcoran and New Hampshire avenue between Corcoran and Riggs.]

| Bidder.      | Ordinary<br>excava-<br>tion. | Brick<br>masonry,<br>natural-<br>cement<br>mortar. | 24-inch<br>pipe. | 21-inch<br>pipe. | 18-inch<br>pipe. | Total.     |
|--------------|------------------------------|--|------------------|------------------|------------------|------------|
| Vinson ..... | \$0.57                       | \$10.75  | \$0.76           | \$0.64           | \$0.53           | \$1,634.50 |
| s Bros ..... | .70                          | 13.00  | .85              | .79              | .73              | 1,962.80   |

SEWER B.

[S street NW. between Fourteenth and Fifteenth.]

| Bidder.      | Ordinary<br>excava-<br>tion. | Brick<br>masonry,<br>natural-<br>cement<br>mortar | 24-inch<br>pipe. | 21-inch<br>pipe. | 18-inch<br>pipe. | Total.     |
|--------------|------------------------------|---|------------------|------------------|------------------|------------|
| Vinson ..... | \$0.54                       | \$10.75   | \$0.74           | \$0.63           | \$0.52           | \$1,472.62 |
| s Bros ..... | 1.10                         | 13.75   | 1.10             | 1.00             | .95              | 2,619.80   |

SEWER C.

[Fourteenth street NW. between R and S.]

| Bidder.      | Ordinary<br>excava-<br>tion. | Brick<br>masonry,<br>natural-<br>cement<br>mortar. | 15-inch<br>pipe. | 12-inch<br>pipe. | Total.     |
|--------------|------------------------------|--|------------------|------------------|------------|
| Vinson ..... | \$0.54                       | \$10.75  | \$0.49           | \$0.42           | \$1,145.75 |
| s Bros ..... | 1.10                         | 13.75  | .80              | .75              | 2,107.50   |

SEWER D.

[L street NW. between Sixteenth and Twentieth.]

| Bidder.        | Ordinary<br>excava-<br>tion. | Brick<br>masonry,<br>natural-<br>cement<br>mortar. | Vitrified-<br>brick ma-<br>sonry, part-<br>cement<br>mortar. | Concrete<br>masonry,<br>natural-<br>cement<br>mortar. | Concrete<br>masonry,<br>part-ce-<br>ment mor-<br>tar. | Total.      |
|----------------|------------------------------|--|--|---|---|-------------|
| Vinson .....   | \$0.54                       | \$9.00   | \$17.00  | \$5.27  | \$6.77  | \$30,285.32 |
| ns Bros .....  | .80                          | 12.50  | 22.50  | 7.50  | 9.50  | 28,692.70   |
| Coyle .....    | .57                          | 10.40  | 20.00  | 7.40  | 8.90  | 24,182.43   |
| 1 Jacoby ..... | .70                          | 10.00  | 20.00  | 5.50  | 7.75  | 24,025.55   |

*Proposals for construction of sewers, opened November 24, 1900.*

| Bidder.             | Ordinary<br>ex-<br>cava-<br>tion. | Em-<br>bank-<br>ment. | Red-<br>brick ma-<br>sonry,<br>natural-<br>cement<br>mortar. | Red-<br>brick ma-<br>sonry,<br>Port-<br>land-<br>cement<br>mortar. | Vitrified-<br>brick ma-<br>sonry,<br>Port-<br>land-<br>cement<br>mortar. | Concrete<br>ma-<br>sonry,<br>natural<br>cement. | Concrete<br>ma-<br>sonry,<br>Portland<br>cement | Total.       |
|---------------------|-----------------------------------|-----------------------|--|--|--|---|---|--------------|
| ns Bros .....       | \$0.30                            | \$0.20                | \$8.96   | \$10.97  | \$15.92  | \$4.65  | \$7.00  | \$167,724.35 |
| n Jacoby .....      | .30                               | .18                   | 8.50   | 10.00  | 18.00  | 4.20  | 6.00  | 159,716.00   |
| Sweeten & Son ..... | .61                               | .15                   | 9.59   | 12.09  | 17.20  | 5.57  | 8.24  | 198,046.35   |
| Coyle & Co .....    | .38                               | .30                   | 9.50   | 12.00  | 18.00  | 5.90  | 8.00  | 192,577.00   |
| son & Michael ..... | .30                               | .18                   | 8.00   | 11.47  | 17.40  | 4.83  | 6.41  | 181,765.85   |
| rew Gleeson .....   | .35½                              | .12½                  | 8.60   | 11.96  | 17.46  | 5.00  | 7.03  | 170,584.00   |



*Schedule of proposals for construction of sewers, etc.—Continued.*

SEWER C.

| Bidder.                | Ordinary excavation. | Brick masonry. | 24-inch pipe. | 15-inch pipe. | Total cost. |
|------------------------|----------------------|----------------|---------------|---------------|-------------|
| n Jacoby .....         | \$0.35               | \$10.50        | \$1.00        | \$0.85        | \$3,818.50  |
| P. Talty .....         | .69                  | 14.00          | .65           | .45           | 4,479.50    |
| F. Talbert .....       | .80                  | 10.25          | .70           | .55           | 4,914.75    |
| P. McNamara & Co ..... | .80                  | 12.00          | 1.16          | .75           | 5,894.40    |
| ons Bros .....         | 1.00                 | 12.00          | .99           | .85           | 6,381.10    |

SEWER D.

| Bidder.            | Ordinary excavation. | Brick masonry. | Vitrified-brick masonry. | Concrete masonry, natural-cement mortar. | Concrete masonry, Portland-cement mortar. | Inverted blocks. | Total cost. |
|--------------------|----------------------|----------------|--------------------------|--|---|------------------|-------------|
| n P. Larguey ..... | \$0.55               | \$10.25        | \$17.00                  | \$5.25                                   | \$7.35                                    | \$0.70           | \$2,091.55  |
| P. Talty .....     | .69                  | 14.00          | 22.00                    | 5.00                                     | 8.00                                      | .80              | 2,351.50    |
| F. Talbert .....   | .62                  | 10.50          | 17.25                    | 5.00                                     | 7.50                                      | .70              | 2,169.50    |
| ons Bros .....     | .50                  | 11.50          | 19.00                    | 6.50                                     | 8.00                                      | .74              | 2,221.50    |

*Schedule of proposals received for sewer construction, opened June 18, 1901.*

SEWER A.

[Fourteenth street NW., between N and Rhode Island avenue.]

| Bidder.                | Excavation. | Brick masonry. | 15-inch pipe. | 12-inch pipe. | 10-inch pipe. | Total cost. |
|------------------------|-------------|----------------|---------------|---------------|---------------|-------------|
| ons Bros .....         | \$0.65      | \$10.50        | \$0.75        | \$0.71        | \$0.68        | \$1,704.50  |
| rren F. Brenizer ..... | .68         | 12.00          | .74           | .66           | .66           | 1,745.60    |
| D. Vinson .....        | .80         | 11.25          | .70           | .65           | .60           | 1,840.00    |
| H. Gummel .....        | 1.00        | 12.50          | .77           | .65           | .56           | 2,114.60    |

SEWER B.

[M street NW., between Seventh and Eighth, and in alley, square 424.]

| Bidder.                | Excavation. | Brick masonry. | 21-inch pipe. | 18-inch pipe. | 15-inch pipe. | 12-inch pipe. | Total cost. |
|------------------------|-------------|----------------|---------------|---------------|---------------|---------------|-------------|
| ons Bros .....         | \$0.65      | \$10.75        | \$0.93        | \$0.85        | \$0.75        | \$0.71        | \$1,716.05  |
| rren F. Brenizer ..... | .65         | 12.00          | .91           | .80           | .71           | .625          | 1,682.92    |
| D. Vinson .....        | 1.20        | 11.25          | .85           | .75           | .75           | .65           | 2,342.75    |
| H. Gummel .....        | 1.00        | 12.50          | 1.00          | .89           | .77           | .65           | 2,203.25    |

SEWER C.

[Thirteenth street SW., between B and D.]

| Bidder.                | Excavation. | Brick masonry. | 21-inch pipe. | 18-inch pipe. | 12-inch pipe. | Total cost. |
|------------------------|-------------|----------------|---------------|---------------|---------------|-------------|
| ons Bros .....         | \$0.65      | \$10.75        | \$0.93        | \$0.85        | \$0.71        | \$1,604.75  |
| rren F. Brenizer ..... | .65         | 12.00          | .99           | .89           | .73           | 1,744.55    |
| D. Vinson .....        | .95         | 11.50          | .85           | .75           | .65           | 2,007.75    |
| H. Gummel .....        | 1.00        | 12.50          | 1.00          | .89           | .65           | 2,175.30    |

SEWER D.

[Twenty-second street NW., between Virginia avenue and G.]

| Bidder.                | Excavation. | Brick masonry. | 18-inch pipe. | 12-inch pipe. | Total cost. |
|------------------------|-------------|----------------|---------------|---------------|-------------|
| ons Bros .....         | \$0.65      | \$10.75        | \$0.85        | \$0.71        | \$942.85    |
| rren F. Brenizer ..... | .61         | 12.00          | .78           | .61           | 876.90      |
| D. Vinson .....        | .75         | 11.25          | .70           | .65           | 958.75      |
| H. Gummel .....        | 1.00        | 12.50          | .89           | .65           | 1,203.80    |





*Schedule of proposals for construction of concrete arch bridge across Branch on line of the Argyle road, opened June 15, 1901.*

| Bidder.                  | Amount. | Bidder.                       |
|--------------------------|---------|-------------------------------|
| Cranford Paving Co ..... | \$3,955 | Arthur Cowsill.....           |
| M. F. Talty .....        | 3,960   | W. B. Upton Co.....           |
| Lyons Bros.....          | 4,670   | Brennan Construction Co ..... |
| Carmody & Hough.....     | 6,000   |                               |

<sup>1</sup> With gravel.

**2 With stone.**

*Proposals for constructing foundations for masonry bridge across Rock line of Connecticut avenue extended, opened December 1, 1900.*

| Bidder.                       | Earth<br>excava-<br>tion<br>(cubic<br>yard). | Rock<br>excava-<br>tion<br>(cubic<br>yard). | Concrete<br>founda-<br>tion ma-<br>sonry.<br>(cubic<br>yard). |
|-------------------------------|--|---|---|
| James C. McGuire .....        | \$0.49½                                      | \$2.50                                      | \$5.59  |
| Cranford Paving Co. ....      | .64  | 3.40  | 5.20  |
| Brennan Construction Co. .... | .86  | 3.00  | 5.31  |
| Geisel Construction Co. ....  | .70  | 3.90  | 5.40  |
| Andrew Gleeson .....          | .58½   | 1.95  | 5.96  |
| Lyons & Co .....              | .65  | 3.50  | 6.50  |

*Schedule of proposals for grading and regulating streets and avenues,  
July 7, 1900.*

| Bidder.                                   | Grading<br>(square<br>yard). | 6 by 20<br>inch<br>curb<br>(linear<br>foot). | 8 by 8<br>inch<br>curb<br>(linear<br>foot). | Cobble<br>gutters<br>(square<br>yard). |
|---|------------------------------|--|---|--|
| Washington Asphalt Block and Tile Co..... | \$0.32                       | \$0.18                                       | \$0.33                                      | \$0.16                                 |
| Andrew Gleeson .....                      | .32                          | .18  | .29   | .38                                    |
| M. F. Talty.....                          | .34                          | .20  | .38   | .25                                    |
| Lyons Bros .....                          | .35                          | .20  | .34   | .27                                    |

*Schedule of proposals for grading certain streets and avenues, opened July*

| Bidder.                             | Cathedral<br>avenue. | Frankfort<br>street,<br>Langdon. | Crescent<br>street. |
|-------------------------------------|----------------------|----------------------------------|---------------------|
| M. F. Talty ..... cubic yard..      | \$0.30               | \$0.32                           | \$0.35              |
| G. B. Mullin ..... do .....         |                      |                                  | .22                 |
| Lyons Bros ..... do .....           | .30                  |                                  | .27                 |
| P. D. Vinson ..... do .....         |                      | .41                              |                     |
| Andrew Gleeson ..... do .....       | .28½                 | .34½                             | .33½                |
| Matthew Myers ..... do .....        |                      | .32                              |                     |
| Patrick Keelty & Bro ..... do ..... | {<br>1.32<br>2.45    | }                                |                     |

<sup>1</sup> Short haul.

**2 Long haul.**



Schedule of proposals for grading Cathedral avenue, opened July 21, 1900.

| Bidder.                   | In limits<br>of ave-<br>nue. | Borrow. |        |        |
|---------------------------|------------------------------|---------|--------|--------|
|                           |                              | A.      | B.     | C.     |
| Brenizer.....cubic yard.. | \$0.24                       | \$0.24  | \$0.39 | \$0.35 |
| ew Gleeson.....do....     | .28                          | .27     | .38    | .37½   |
| as M. Bond.....do....     | .24½                         | .24½    | .41    | .43    |

Proposals for grading Adams Mill road, opened March 30, 1901.

| Bidder.         | Price.<br>per<br>cubic<br>yard. | Bidder.              | Price.<br>per<br>cubic<br>yard. |
|-----------------|---------------------------------|----------------------|---------------------------------|
| ew Gleeson..... | \$0.22                          | Pitts & Hawkins..... | \$0.29                          |
| dy & Hough..... | .22½                            | John Jacoby.....     | .33                             |
| Talty.....      | .23                             | Lyons Bros.....      | .36                             |

ule of proposals for grading Columbia road east of Thirteenth street NW.,  
opened April 13, 1901.

| Bidder.         | Price<br>per<br>cubic<br>yard. | Bidder.          | Price<br>per<br>cubic<br>yard. |
|-----------------|--------------------------------|------------------|--------------------------------|
| egan & Co.....  | \$0.23                         | Lyons Bros.....  | \$0.30                         |
| dy & Hough..... | .26                            | M. F. Talty..... | .31                            |
| ew Gleeson..... | .30                            |                  |                                |

Schedule of proposals for grading Connecticut avenue west of Rock Creek.

| Bidder.          | Price<br>per<br>cubic<br>yard. | Bidder.                  | Price<br>per<br>cubic<br>yard. |
|------------------|--------------------------------|--------------------------|--------------------------------|
| egan & Co.....   | \$0.42                         | John Jacoby.....         | \$0.50                         |
| ody & Hough..... | .43                            | M. F. McNamara & Co..... | .58                            |
| s Bros.....      | .43                            | Pitts & Hawkins.....     | .57                            |
| Mullin.....      | .47                            |                          |                                |

ule of proposals received May 4, 1901, for grading certain streets and avenues.

| Bidder.                            | Joliet<br>street. | Blagden<br>avenue. | Illinois<br>avenue. | Ne-<br>braska<br>avenue. |
|------------------------------------|-------------------|--------------------|---------------------|--------------------------|
| Hawkins & Trundle.....cubic yard.. | \$0.285           | \$0.63             | \$0.27              | \$0.27                   |
| Talty.....do....                   | .38               | .45                | .25                 | .30                      |
| Mullin.....do....                  |                   | .38                |                     |                          |
| n & Ball.....do....                | .445              | .32                | .345                |                          |
| Jacoby.....do....                  | .23               | .55                | .28                 | .32                      |
| ew Gleeson.....do....              | .39               | .40                | .235                | .245                     |
| son & Smith.....do....             |                   |                    | .25                 |                          |
| Birmingham.....do....              | .25               |                    | .25                 |                          |
| Malone.....do....                  | .30               |                    |                     |                          |
| ew Myers.....do....                |                   |                    | .24                 |                          |
| Burrows Constructing Co.....do.... |                   |                    |                     | .294                     |
| H. Allen.....do....                | .45               | .40                | .22                 | .35                      |
| s Bros.....do....                  | .35               | .4975              | .26                 | .35                      |

# 180 OPERATIONS OF THE ENGINEER DEPARTMENT, D.

*Schedule of proposals for paving streets and avenues with sheet asphalt  
June 1, 1901.*

## ASPHALT SURFACE.

*Schedule of proposals for paving Bladensburg road with asphalt at  
blocks, opened April 20, 1901.*

| Bidder.                       |
|-------------------------------|
| Barber Asphalt Paving Co..... |
| Cranford Paving Co.....       |

*Schedule of proposals for laying cement sidewalks, opened October*

| Bidder.                             | Class A. | Class |
|-------------------------------------|----------|-------|
| Colburn Paving Co.....square yard.. | \$1.05   | \$1.1 |
| Cranford Paving Co.....do.....      | 1.08     | 1.    |
| Brennan Construction Co.....do..... | 1.08     | 1.    |
| F. M. Kemp & Sons.....do.....       | 1.11     | 1.    |

*Schedule of proposals for laying certain cement sidewalks, opened Octo*

| Bidder.                      | Pr  |
|------------------------------|-----|
| Fred Drew.....               | \$1 |
| Cranford Paving Co.....      | 1   |
| Colburn Paving Co.....       | 1   |
| Brennan Construction Co..... | 1   |



182      OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

*Schedule of proposals for constructing a manual training school building on south side of P street NW., between First and Third streets, opened July 28, 1900.*

| Bidder.                    | Amount.   | Bidder.                | Amount.   |
|----------------------------|-----------|------------------------|-----------|
| Arthar Cowdill .....       | \$114,450 | Pavarini & Greer ..... | \$119,000 |
| Richardson & Burgess ..... | 117,260   | E. Landvoight .....    | 112,000   |
| Saml. Prescott & Co. ....  | 117,999   | W. Kimmel .....        | 119,000   |
| Gleeson & Humphrey .....   | 118,000   | D. F. Mockabee .....   | 112,200   |
| Meads & Reynolds .....     | 118,794   | John Hughes, jr. ....  | 127,000   |

*Schedule of proposals for constructing an eight-room school building on lot 1, block 9, Barry Farm, Nichols avenue, Anacostia, opened September 1, 1900.*

| Bidder.                  | Amount.     |             |
|--------------------------|-------------|-------------|
|                          | Proposal 1. | Proposal 2. |
| Gleeson & Humphrey ..... | \$24,800    | \$24,400    |
| Pavarini & Greer .....   | 35,400      | 33,700      |

*Schedule of proposals for constructing a manual training school at southeast corner Rhode Island avenue and Seventh street NW., opened September 22, 1900.*

| Bidder.                  | Amount.   | Bidder.                    | Amount.   |
|--------------------------|-----------|----------------------------|-----------|
| W. E. Spelr .....        | \$105,680 | Richardson & Burgess ..... | \$112,800 |
| W. A. Kimmel ..          | 107,000   | Meads & Reynolds .....     | 118,700   |
| Gleeson & Humphrey ..... | 109,900   | Noble H. Thomas .....      | 122,000   |
| W. C. Morrison .....     | 113,894   | Henry F. Gets .....        | 124,000   |

*Schedule of proposals for constructing brick corridor, etc., at Girls' Reform School, opened September 26, 1900.*

| Bidder.                | Amount. |
|------------------------|---------|
| Pavarini & Greer ..... | \$5,900 |
| D. F. Mockabee .....   | 8,100   |

*Proposals for constructing police station on block 10, south side of Whitney avenue, between Sherman and Brightwood avenues NW.*

| Bidder.                 | For building complete. | For plumbing work. | For cell work. |
|-------------------------|------------------------|--------------------|----------------|
| Meads & Reynolds .....  | \$24,000               | .....              | .....          |
| John Hughes, jr .....   | 24,825                 | .....              | .....          |
| Pavarini & Greer .....  | 26,500                 | .....              | .....          |
| W. E. Spelr .....       | 27,400                 | .....              | .....          |
| D. F. Mockabee .....    | 27,951                 | .....              | .....          |
| E. J. Hannan .....      | .....                  | \$2,269            | .....          |
| Jas. Nolan & Sons ..... | .....                  | 2,445              | .....          |
| Champion Iron Co .....  | .....                  | .....              | \$1,050        |
| Van Dorn Iron Co .....  | .....                  | .....              | 1,377          |

*Schedule of proposals for constructing an eight-room school building on northwest corner Twelfth and D streets NE.*

| Bidder.                 | Amount.  | Bidder.              | Amount.  |
|-------------------------|----------|----------------------|----------|
| Pavarini & Greer.....   | \$34,400 | John Hughes, Jr..... | \$34,700 |
| Gleason & Humphrey..... | 35,000   | D. F. Mockabee.....  | 37,300   |
| John C. Louthan.....    | 35,941   |                      |          |

*Schedule of proposals for constructing a rear wing for a new workhouse, opened January 3, 1901.*

| Bidder.  | Com-<br>plete. | Cell con-<br>struction<br>omitted<br>(deduct). | Cell<br>wing,<br>plumb-<br>ing omit-<br>ted (de-<br>duct). | Rear<br>wing,<br>cell work<br>com-<br>plete. | Utility<br>system<br>of cell<br>construc-<br>tion<br>(add). | Locking<br>device. |
|--|----------------|--|--|--|---|--------------------|
| Gleason & Humphrey.....                            | \$108,000      | \$33,940                                       | \$10,000   | \$33,900                                     |   |                    |
| W. E. Speir.....                                   | 117,500        | 42,956   | 12,000   |  |   | \$5,050            |
| Van Dorn Iron Works.....                           | 118,373        |  | 23,139   | 101,243                                      | \$2,045   | 135                |
| Stewart Iron Works.....                            |                |  | 12,000   | 66,000                                       |   |                    |
| Panly Jail Building and Manufactur-<br>ing Co..... |                |  | 12,000   | 38,277                                       | 44,208  | 8,050              |

<sup>1</sup> Per cell.

*Schedule of proposals for constructing a receiving ward, Washington Asylum, opened February 23, 1901.*

| Bidder.               | Amount.  | Bidder.                 | Amount.  |
|-----------------------|----------|-------------------------|----------|
| H. E. Burgess.....    | \$12,487 | Meads & Reynolds.....   | \$13,800 |
| Pavarini & Greer..... | 12,780   | John Hughes, Jr.....    | 14,585   |
| D. F. Mockabee.....   | 13,184   | Gleason & Humphrey..... | 17,000   |

*Schedule of proposals for constructing eight-room school building on Half street between N and O streets SW.*





# 186 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

*Schedule of proposals for heating and ventilating school building, Fifteenth street NE., between Gales and Rosedale streets, opened July 2, 1900.*

| Bidder.                 | Amount.  |             |
|-------------------------|----------|-------------|
|                         | Hot air. | Steam heat. |
| H. I. Gregory .....     | \$2,450  | .....       |
| McGinnis-Smith Co. .... | .....    | \$3,854     |

*Schedule of proposals for repairs to and changes in plumbing in the Force School building, opened July 26, 1900.*

| Bidder.                 | Amount.    |
|-------------------------|------------|
| Jas. Nolan & Sons ..... | \$8,181.00 |
| E. J. Hannan .....      | 7,972.50   |
| S. S. Shedd & Bro ..... | 7,005.45   |

*Schedule of proposals received May 4, 1901, for changes in plumbing in hospital ward No. 4, Washington Asylum grounds.*

| Bidder.                 | Amount. |
|-------------------------|---------|
| S. S. Shedd & Bro. .... | \$1,079 |
| Jas. Nolan & Sons ..... | 908     |
| E. J. Hannan .....      | 840     |

*Schedule of proposals received June 18, 1901, for the construction of urinals.*

| Bidder.                 | Four urinals. | One urinal. |
|-------------------------|---------------|-------------|
| M. B. Casey .....       | \$3,167.80    | \$804       |
| E. J. Hannan .....      | 2,648.00      | 672         |
| Jas. Nolan & Sons ..... | 2,616.00      | 663         |
| Wm. Rothwell .....      | 2,500.00      | 611         |
| S. S. Shedd & Bro ..... | 2,094.00      | 524         |

*Schedule of proposals received for repairs to and changes in plumbing in Randall and Lincoln schools.*

| Bidder.                  | Randall. | Lincoln. |
|--------------------------|----------|----------|
| James Nolan & Sons ..... | \$6,000  | \$2,865  |
| E. J. Hannan .....       | 5,447    | 4,000    |
| William Rothwell .....   | 5,338    | 3,897    |
| S. S. Shedd & Bro .....  | 5,136    | 3,854    |

*Schedule of proposals for furnishing and setting in place two steam boilers at Franklin School building, opened July 18, 1900.*

| Bidder.  | Amount. |
|--|---------|
| W. H. Larman .....                               | \$2,535 |
| Warren W. Biggs Heating and Ventilating Co ..... | 2,511   |
| Forsberg & Murray .....                          | 2,751   |



# OPERATIONS OF THE ENGINEER DEPARTMENT, D. C. 187

*Proposals for constructing a rubble masonry wall, opened November 3, 1900.*

| Bidder.                | Per cubic yard. |
|------------------------|-----------------|
| Lyons Brothers .....   | \$5.24          |
| M. F. Talty .....      | 5.50            |
| Pavarini & Greer ..... | 6.00            |

*Schedule of proposals for constructing two gate houses at Brightwood Reservoir, opened July 7, 1900.*

| Bidder                   | White marble on granite base. | Granite. | Light clouded marble, similar to that in Corcoran Art Gallery. | Cherokee, Ga. marble on granite base. | Pennsylvania marble on granite base. |
|--------------------------|-------------------------------|----------|--|---------------------------------------|--------------------------------------|
| D. F. Mockabee .....     | \$24,154                      | \$23,120 | \$22,305   |                                       |                                      |
| J. F. Manning & Co. .... | 23,980                        |          |  |                                       |                                      |
| Antonio Mainati .....    | 23,900                        | 22,750   |  |                                       |                                      |
| John Hughes, Jr. ....    | 23,202                        | 22,100   |  |                                       |                                      |
| W. A. Kimmel .....       |                               |          |  | \$19,991                              | \$19,991                             |

*Schedule of proposals for furnishing and erecting fencing on coping at Brightwood Reservoir, opened May 25, 1901.*

| Bidder.                      | Cost.   | Bidder.                | Cost.   |
|------------------------------|---------|------------------------|---------|
| A. F. Jones .....            | \$1,550 | Fred. J. White .....   | \$1,020 |
| C. A. Schneider's Sons ..... | 1,550   | Chas. White & Co ..... | 2,200   |

*Schedule of proposals received May 4, 1901, for constructing two gate houses at the Brightwood Reservoir.*

| Bidder.              | Amount.  | Bidder.                     | Amount.  |
|----------------------|----------|-----------------------------|----------|
| W. A. Kimmel .....   | \$18,053 | Sam. J. Prescott & Co ..... | \$17,741 |
| D. F. Mockabee ..... | 19,922   | Antonio Mainati .....       | 21,168   |

*Schedule of proposals for furnishing and erecting two 20,000,000-gallon pumping engines, received June 30, 1900.*

<sup>1</sup> Formal in all respects.

<sup>2</sup> Formal, except that no evidence is submitted, as required in paragraph 1 of specifications, that firm has built engines of size and type specified.

<sup>3</sup> Informal. Rotary pumps specified and duty based on foot-pounds of work per million British units.

188 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

*Schedule of proposals for sewerage pumping station, opened February 16,*

| Bidder.                | Amount.  | Bidder.                                    | A. |
|------------------------|----------|--|----|
| Camden Iron Works..... | \$11,811 | Henry R. Worthington.....                  |    |
| Camden Iron Works..... | 18,861   | United Engineering and Contracting Co..... |    |

<sup>1</sup> Alternate bid.

*Schedule of proposals to furnish engine, wheel, shaft, etc., for the harbor boat "Vigilant," opened April 6, 1901.*

| Bidder.                                 | A. |
|---|----|
| The James Clark Co. Baltimore, Md.....  |    |
| W. S. Moore's Sons, Alexandria, Va..... |    |
| Forsberg & Murray.....                  |    |

*Schedule of proposal to furnish two combination chemical and hose wagons, fire department, received September 5, 1900.*

| Bidder.                     | A. |
|-----------------------------|----|
| Chas. T. Holloway & Co..... |    |

*Schedule of proposal for placing new boiler in the harbor boat "Vigilant," received September 18, 1900.*

| Bidder.              | A. |
|----------------------|----|
| H. Boswell & Co..... |    |

*Proposals for removing certain buildings and obstructions in the line of E street extended, opened October 13, 1900.*

| Bidder.              | Item 1. | Item 2. | Item 3. | Item 4. | Item 5. | J |
|----------------------|---------|---------|---------|---------|---------|---|
| Geo. Simmons.....    |         |         |         |         | \$230   |   |
| Fannie E. Pate.....  | \$10.75 |         |         |         |         |   |
| Edwin Kormann.....   |         | \$880   |         | \$74    | 100     |   |
| Chas. M. King.....   |         | 800     |         | 300     |         |   |
| Rosa E. Gerhold..... |         |         | \$15    |         |         |   |

*Schedule of proposals received June 16, 1901, for introducing water and sewer certain premises.*

| Bidder.                | A.       | B.       | C.       | D.       |
|------------------------|----------|----------|----------|----------|
| Jan. Nolan & Sons..... | \$513.45 | \$409.68 | \$455.64 | \$197.86 |
| B. S. Shedd & Bro..... | 340.00   | 225.80   | 222.35   | 113.89   |
| M. B. Casey.....       | 239.00   | 100.00   | 191.00   | 124.00   |

*Schedule of proposals received June 1, 1901, for furnishing Portland cement.*

| Bidder.                        | Property yard. | F. o. b. B. and O. | F. o. b. P., W. and B. |
|--------------------------------|----------------|--------------------|------------------------|
| Lehigh Portland Cement Co..... | \$1.44         | \$1.40             | \$1.40                 |
| Lawrence Cement Co.....        | 1.45           | 1.40               | 1.40                   |
| Alpha Portland Cement Co.....  | 1.46½          | 1.41½              | 1.41½                  |
| National Mortar Co.....        | 1.53           | -----              | 1.48                   |
| Atlas Portland Cement Co.....  | 1.54           | 1.49               | 1.49                   |
| Cranford Paving Co.....        | 2.25           | 2.20               | 2.20                   |
| Brennan Construction Co.....   | 1.50           | 1.53               | 1.53                   |

*Schedule of proposals received June 1, 1901, for furnishing natural hydraulic cement.*

|   | Jas. H. McGill. | National Mortar Co. | John Bullock & Son. |
|---|-----------------|---------------------|---------------------|
| Canal street between Delaware avenue and First. per barrel..                        | \$0.64          | \$0.68½             | \$0.82              |
| F. o. b. Washington, Baltimore and Ohio R. R. .... do.....                          | .50             | .62                 | .72                 |
| F. o. b. Washington, Philadelphia, Wilmington and Baltimore R. R. .... per barrel.. | .66½            | -----               | .75                 |

*Schedule of proposals for furnishing cast-iron water pipe, opened July 7, 1900.*

| Bidder.  | 12-inch.        | 4-inch.         | 3-inch.         | Total bid.  | Remarks.   |
|--|-----------------|-----------------|-----------------|-------------|--|
|  | <i>Per ton.</i> | <i>Per ton.</i> | <i>Per ton.</i> |             |  |
| M. J. Drummond & Co.....                         | \$25.85         | \$27.50         | \$28.50         | \$10,168.60 | On cars Pennsylvania R. R.                       |
| United States Cast Iron Pipe and Foundry Co..... | 24.90           | 26.90           | 28.90           | 9,745.20    | On wharf; if on cars add 85 cents per gross ton. |
| Camden Iron Works.....                           | 24.22           | 26.18           | 27.75           | 9,569.88    | On wharf.  |

*Schedule of proposals for furnishing cast-iron water pipe, opened October 3, 1900.*

| Bidder.  | Per ton. | Cost.       |
|--|----------|-------------|
| United States Cast Iron Pipe and Foundry Co..... | \$23.40  | \$18,720.00 |
| M. J. Drummond & Co.....                         | 23.70    | 18,960.00   |
| Camden Iron Works.....                           | 23.88    | 19,104.00   |

*Proposals for furnishing granite curbing, opened October 27, 1900.*

| Bidder.                                 | 8 by 8 inches straight. | 8 by 8 inches circular. | 6 by 20 inches straight. | 6 by 20 inches circular. |
|---|-------------------------|-------------------------|--------------------------|--------------------------|
|   | <i>Per foot.</i>        | <i>Per foot.</i>        | <i>Per foot.</i>         | <i>Per foot.</i>         |
| Francis Jones & Co.....                 | \$0.68½                 | \$0.90                  | \$0.77½                  | \$1.10                   |
| J. Merrick Horn.....                    | .67                     | .87                     | .82                      | 1.15                     |
| J. H. Peddicord & Son.....              | .75                     | 1.50                    | .95                      | 1.95                     |
| Bath Granite Co.....                    | 1.85                    | 2.40                    | 1.20                     | 2.20                     |
| Venable Bros.....                       | .63                     | .84                     | .75½                     | .94                      |
| Geo. Peirce.....                        | .95                     | 1.83                    | 1.09                     | 1.47                     |
| Do.....                                 | -----                   | -----                   | .99                      | -----                    |
| Stlas C. Doby.....                      | .66                     | .88                     | .76                      | .90                      |
| Cape Ann Granite Co. <sup>1</sup> ..... | -----                   | -----                   | -----                    | -----                    |

<sup>1</sup> Sample received, but no bid.



*Schedule of proposals received June 1, 1901, for furnishing red sidewalk paving bricks.*

| Bidder.                        | Price per M. |
|--------------------------------|--------------|
| W. Wirt Clarke & Sons.....     | \$11.55      |
| Frederick Brick Works .....    | 11.75        |
| Guise Brick and Stone Co ..... | 15.50        |

*Schedule of bids received June 1, 1901, for furnishing vitrified paving blocks.*

| Bidder.                              | Number per square yard. | Whole block, per M. | Half block, per M. |
|--------------------------------------|-------------------------|---------------------|--------------------|
| Joseph P. Mack .....                 | 43                      | \$20.82             | \$18.00            |
| Camden Clay Co.....                  | 48                      | 20.90               | 10.85              |
| American Sewer Pipe Co .....         | 42                      | 20.96               | 13.00              |
| Guise Brick and Stone Co.....        | 44.50                   | 21.25               | 15.00              |
| W. Wirt Clarke & Sons .....          | 42                      | 21.35               | 13.50              |
| Do.....                              |                         | 21.35               | 13.50              |
| Portsmouth (Ky.) Fire Brick Co ..... | .45                     | 21.50               | 12.70              |
| Eastern Paving Brick Co .....        | .43                     | 22.00               | 12.00              |
| W. Wirt Clarke & Sons .....          | 41                      | 25.50               |                    |
| Do.....                              | 42                      | 24.55               | 14.55              |
| Harris Brick Co .....                | 42                      | 26.25               | 14.00              |
| Mack Manufacturing Co .....          | 42                      | 21.33               | 18.00              |

*Schedule of proposals received June 1, 1901, for furnishing sand and gravel.*

| Bidder.                                 | Paving and concrete sand. | Building sand. | Screened gravel. |
|---|---------------------------|----------------|------------------|
| Columbia National Sand Dredging Co..... | \$0.42                    | \$0.49         | \$0.69           |
| L. E. Smoot.....                        | .44                       | .52½           | .80              |

*Schedule of proposals for curb and corporation cocks, opened February 2, 1901.*

CURB COCKS.

| Bidder.                                     | ¾ inch. | 1 inch. | 1½ inches. | Cost.      |
|---|---------|---------|------------|------------|
| A. P. Smith Manufacturing Co.. {Inverted .. | \$1.30  | \$2.00  | \$3.00     | \$2,380.00 |
| {Direct .....                               | .75     | 1.85    | 2.00       | 1,462.50   |
| H. Mueller Manufacturing Co .. {Inverted .. | 1.22    | 2.14    | 3.41       | 2,388.50   |
| {Direct .....                               | .75     | 1.82    | 2.10       | 1,470.00   |
| C. J. McCubbin.....Inverted..               | 1.08    | 1.90    | 3.00       | 2,113.00   |

CORPORATION COCKS.

| Bidder.                            | ¾ inch. | ¾ inch. | ¾ inch. | 1 inch. | 1½ inches. | 1½ inches. | Cost.      |
|------------------------------------|---------|---------|---------|---------|------------|------------|------------|
| A. P. Smith Manufacturing Co ..... | \$0.75  | \$1.00  | \$1.20  | \$1.75  | \$3.00     | \$4.00     | \$1,670.00 |
| H. Mueller Manufacturing Co .....  | .77½    | .97     | 1.34    | 1.89    | 3.71       | 4.77       | 1,783.10   |

*Schedule of bids for furnishing fire hydrants, opened February 23, 1901.*

| Bidder.                                   | Cost, each. |
|---|-------------|
| M. J. Drummond & Co., New York, N. Y..... | \$41.40     |
| Camden Iron Works, Philadelphia, Pa ..... | 43.50       |
| Ellicott Machine Co., Baltimore, Md.....  | 49.75       |



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# REPORT

OF THE

## OPERATIONS OF THE ENGINEER DEPARTMENT

OF THE

## DISTRICT OF COLUMBIA

FOR

THE YEAR ENDED JUNE 30, 1902,

UNDER THE DIRECTION OF

**CAPTAIN LANSING H. BEACH, CORPS OF ENGINEERS, U. S. A.,**

**ENGINEER COMMISSIONER, DISTRICT OF COLUMBIA,**

From July 1, 1901, to October 30, 1901,


AND

**MAJOR JOHN BIDDLE, CORPS OF ENGINEERS, U. S. A.,**

**ENGINEER COMMISSIONER, DISTRICT OF COLUMBIA**

From November 1, 1901

---













Carolina poplar is in this class: its roots grow near the surface, where they interfere with sidewalks and curbing, and it is easily wrecked by storms. We are endeavoring to guard the trees as carefully as possible, and none is removed without good cause. Since May last a record has been kept of each tree removed. This record shows the location, variety, and nature of surroundings of the tree and the cause of its removal. It is believed that in the course of a few years this record will furnish statistics of value.

Details of the work are given in the report of Mr. Trueman Lanham, superintendent of parking, which will be found on page 93.

#### BUILDINGS AND BUILDING INSPECTION.

The past year was marked by increased activity in building. The estimated value of new buildings for which permits were issued is \$8,310,240. This is a gain of more than \$2,000,000 over the preceding year. About two-thirds of this increase is in dwelling houses. As an indication of the extent to which the city is yearly pushing out beyond its original boundary it may be stated that the estimated value of new buildings erected in the county during the year is about \$2,500,000.

This growth in business has placed a heavy burden upon the office of the building inspector. Congress has added to the force of this office from year to year, but the additions have not kept pace with the increase in business. There is just complaint on the part of builders of time wasted in getting building permits. Additional force is requested.

The building inspector calls attention to the desirability of inspecting scaffoldings and derricks for the better protection of the life and limb of workmen. There have been frequent accidents due to lack of precautions in this regard, and it has been impossible for the office to give the matter the attention it deserves. With the amount of building in progress all over the District, the inspectors have only been able to give a few minutes daily to each building. An increase in the number of inspectors is requested.

During the year there were completed 12 school buildings, the Tenth precinct station house, Brookland engine house, 2 stables for the fire department, the receiving ward for the Washington Asylum, and the rear wing of the new workhouse. This work was done by contract, under the supervision of the building inspector's office.

Details of work during the year are given in the report of Mr. Snowden Ashford, inspector of buildings, which will be found on page 149.

#### SURVEYOR'S OFFICE.

The work of this office has increased about one-third over what it was during the preceding year. This is largely due to activity in the real estate and building business. The new building regulations, which went into effect last March, require that the walls of all new buildings shall be located on the ground by the surveyor. This has added to the duties of the office, and while it may incur a small delay and expense to the builder at the beginning of the work, it is believed to be very desirable, insuring, as it does, against future litigations on account of encroachments on adjoining property.

Several years ago the Commissioners adopted a rule requiring that









Details of the work of the sewer division are given in the report of Mr. D. E. McComb, superintendent of sewers, which will be found on page 113.

#### WATER SERVICE.

About two years ago a rigid inspection of water fixtures throughout the city was instituted. In a number of cases it was found that premises had been improperly rated, which ratings were corrected. In 1901 the revenues increased about \$20,000 over the previous year, and in 1902 there was a further increase of \$26,000. In each case the bulk of the increase was in water rents. The revenues of the water department for the year amounted to \$395,394.02. The number of premises now supplied with Potomac water is 47,801, 1,326 having been added during the year. There are 1,493 meters in use, an increase of 253 over last year.

Ten miles of new water mains were laid during the year, and 83 new fire hydrants erected.

A parcel of land 100 feet square near the Reno reservoir was purchased for the use of the water department. It is proposed to erect a water tower on this site to supply premises above the 350-foot contour.

At the Brightwood reservoir two granite gate houses were completed and an iron railing erected around the basins.

Work upon the Trumbull street pumping station has progressed satisfactorily, although there has been a slight delay due to difficulty in securing materials.

Attention is again invited to the project for the installation of a high-pressure fire service in the business section of the city. This service would add materially to the fire protection of this important part of the city, and work upon it should be started as soon as funds can be provided for the purpose. This project is described in detail in the report of Mr. W. A. McFarland, superintendent of the water department, which will be found on page 99.

#### TESTS OF MATERIALS.

It is believed that facilities should be provided for testing all important materials used in public works of the District. Asphalts and cements are now rigidly tested, with beneficial results. The office is not equipped, however, for testing such materials as coal, coke, bricks, oils, paints, etc. But little additional help would be required for this service if adequate apparatus were provided, and it would appear to be the part of wisdom and economy to establish a general testing department. The work could readily be carried on by the inspector of asphalts and cements, who is well fitted for such investigations. The office space is so limited that it would be impossible to install the necessary apparatus in our present quarters, but when the new municipal building is completed the Commissioners hope that this important matter will receive the consideration it deserves.

\* \* \* \* \*

Very respectfully,

HENRY B. F. MACFARLAND,  
HENRY L. WEST,  
JOHN BIDDLE,

*Commissioners of the District of Columbia.*





REPORT OF THE OPERATIONS OF THE ENGINEER DEPARTMENT.

SURFACE DIVISION.

Capt. H. C. NEWCOMER, Corps of Engineers, United States Army, Assistant to the Engineer Commissioner, in charge.

|  |   |
|--|---|
| HIGHWAYS (STREETS, ROADS, BRIDGES, ETC.) | C. B. HUNT, Computing Engineer.               |
| Sidewalks and alleys                     | H. N. MOSS, Superintendent of Streets.        |
| Maintenance of county roads              | MORRIS HACKER, Superintendent of Roads.       |
| Construction and care of bridges         | W. J. DOUGLAS, Engineer of Bridges.           |
| SURVEYOR'S OFFICE                        | H. B. LOOKER, Surveyor, District of Columbia. |
| PARKING COMMISSION                       | TRUEMAN LANHAM, Superintendent of Parking.    |

REPORT OF ASSISTANT IN CHARGE.

OFFICE OF THE ENGINEER COMMISSIONER, DISTRICT OF COLUMBIA, Washington, October 7, 1902.

MAJOR: I have the honor to transmit herewith annual reports giving in detail the operations during the fiscal year ending June 30, 1902, of the surface division, the surveyor's office, and the parking commission, namely:

- Report of the computing engineer, including reports of the superintendent of streets, superintendent of roads, and the engineer of bridges.
- Report of the surveyor, District of Columbia.
- Report of the superintendent of parking.

Very respectfully,

H. C. NEWCOMER, Capt., Corps of Engineers, U. S. Army, Assistant to Engineer Commissioner, District of Columbia.

Maj. JOHN BIDDLE, Corps of Engineers, U. S. Army, Engineer Commissioner, District of Columbia.

REPORT OF THE COMPUTING ENGINEER, DISTRICT OF COLUMBIA.

WASHINGTON, D. C., July 1, 1902.

SIR: I have the honor to submit the following report of the operations of the surface division of the engineer department of the District of Columbia for the fiscal year ended June 30, 1902.

*Summary statement of work under appropriations for "Work on sundry streets and avenues," "Construction of county roads," and "Paving roadways under permit system."*

| Character of work.                      | Streets and avenues. | County roads and suburban streets. | Paving roadways. | Total      |
|---|----------------------|------------------------------------|------------------|------------|
| Asphalt, 6-inch base.....square yards.. | 36,330               | 13,898.54                          |                  | 50,228.54  |
| Vitrified-block gutters.....do.....     | 4,598                | 2,053.77                           |                  | 6,651.77   |
| Cement gutters.....do.....              | 846.91               |                                    |                  | 846.91     |
| Asphalt block.....do.....               | 17,524.77            | 5,614.85                           | 6,719.75         | 29,859.37  |
| Macadam roadways.....do.....            |                      | 40,276                             |                  | 40,276     |
| Cobble gutters.....do.....              |                      | 9,979                              |                  | 9,979      |
| Ordinary grading.....cubic yards..      | 34,452.72            | 157,088                            | 6,848            | 198,388.72 |
| Macadam grading.....do.....             | 4,731.39             | 4,010                              |                  | 8,741.39   |
| Old cobble removed.....square yards..   | 27,730.14            | 3,047                              |                  | 30,777.14  |
| Old curb removed.....linear feet..      | 8,827.42             | 1,964.20                           |                  | 10,791.62  |
| Curb set.....do.....                    | 14,273.01            | 8,924.87                           | 4,498.82         | 27,696.70  |
| Curb reset.....do.....                  | 13,504.97            | 3,012.31                           |                  | 16,517.28  |

In addition to the above, 13,113.14 square yards of asphalt and 495.63 square yards of vitrified-block gutter were laid in space of abandoned railroad tracks at cost of railroad companies.

In the report of the superintendent of streets all day-labor work under the appropriation for "Repairs to streets" is consolidated. It seems proper to segregate certain items of work, which are accordingly itemized, as follows:

The curb was reset and vitrified-block gutters laid on Louisiana avenue between Ninth and Tenth streets; the roadways of Warner street, Kirby street, Willard street, Hanover street, Seaton street, and Wiltberger street were macadamized and the gutters and sidewalks relaid where necessary; the roadway of First street SW. between Q and V streets was graveled and the gutters repaved; the roadways of South Carolina avenue SE. between Eleventh and Twelfth streets, of L street SE. between Eighth and Ninth streets, and of First street SE. between M and N streets were macadamized and the gutters relaid; the roadway of C street SE. between Twelfth and Thirteenth streets was graveled; and the roadways of Quander street SE., Park place NE., Thirteenth street NE. from B street to North Carolina avenue and from H street to Maryland avenue, F street NE. from Thirteenth street to Maryland avenue and from Fourteenth to Fifteenth streets, Sixth street NE. from H to I streets, Tennessee avenue from F to Fifteenth streets, and Fourteenth NE. from H street to Maryland avenue were macadamized and the gutters relaid and curb reset where necessary.

The principal items of work under the appropriation for "Repairs to roads" were: The grading of Detroit street from Twelfth to Thirteenth streets, Brookland; the graveling of Nichols avenue north of the asylum gate; the macadamizing of Blagden Mill road along Rock Creek; of Nebraska avenue; of the Military road; of Highland avenue; of School street; of Vermillion street, Takoma; of V street NW. between First and North Capitol streets; of Whitney avenue east of Brightwood avenue; and of Twenty-second street, Langdon, south of Cincinnati street; the resurfacing of considerable portions of Brightwood avenue and of Bunker Hill road north of Fort street, and the graveling of Bennings road westward from Central avenue.

The following is a list of tables appended with this report:

Table A.—Street railways in the District of Columbia, July 1, 1902.

B.—Statement of character and extent of street pavements, July 1, 1902.

C.—Statement of mileage of street pavements, July 1, 1902.

D.—Descriptive list of street pavements and suburban roadways, giving character, extent, cost, etc.

E.—Schedules of work on streets and avenues and county roads and suburban streets.

F.—Repairs to asphalt and concrete pavements for the year ended June 30, 1902.

G.—Work done at cost of railroad companies.

H.—Work done by day labor under appropriation for "Current repairs to streets, avenues, and alleys."

I.—Regular permit.

K.—Assessment work.

L.—Replacing and repairing sidewalks and curbs around public reservations.

M.—Miscellaneous work.



TABLE D.—*Descriptive list of street pavements and suburban roadways.*

| Street.                      | From—                         | To—                       | Kind of pavement or roadway. |
|------------------------------|-------------------------------|---------------------------|------------------------------|
| Brentwood road               | Florida avenue                | District line             | Gravel                       |
| Brightwood avenue            | do                            | Pomeroy                   | Granite                      |
| Do                           | do                            | Grant                     | Granite                      |
| Do                           | Grant avenue                  | Irving                    | do                           |
| Do                           | Irving                        | Steuben                   | do                           |
| Do                           | do                            | do                        | do                           |
| Do                           | Steuben                       | Rock Creek Church road    | Macadam                      |
| Do                           | Rock Creek Church road.       | District line             | do                           |
| Branch avenue                | Pennsylvania Avenue extended. | Bowen road                | Gravel                       |
| Broad Branch road            |                               |                           | do                           |
| Brown street                 | Howard                        | Laurel                    | do                           |
| Bunker Hill road             | Lincoln avenue                | Baltimore and Ohio R. R.  | Macadam                      |
| Do                           |                               |                           | Gravel                       |
| C, NW                        | Delaware avenue               | First                     | Granite                      |
| Do                           | New Jersey avenue             | do                        | Asphalt, H. B.               |
| Do                           | Second                        | Third                     | Granite                      |
| Do                           | Third                         | Four-and-a-half           | Asphalt, H. B.               |
| Do                           | Four-and-a-half               | Seventh                   | do                           |
| Do                           | Seventh                       | Eighth                    | Granite                      |
| Do                           | Ninth                         | Tenth                     | Belgian                      |
| Do                           | Tenth                         | Eleventh                  | Cobble                       |
| Do                           | Twelfth                       | Fifteenth                 | do                           |
| Do                           | Eleventh                      | Twelfth                   | Asphalt, H. B.               |
| C, NE                        | Delaware avenue               | First                     | Granite                      |
| Do                           | First                         | Third                     | do                           |
| Do                           | Fourth                        | Sixth                     | Asphalt block                |
| Do                           | Sixth                         | Eighth                    | do                           |
| Do                           | Eighth                        | Tenth                     | do                           |
| Do                           | Tenth                         | Tennessee avenue          | Gravel                       |
| C, SE                        | New York avenue               | Fourth                    | Asphalt block                |
| Do                           | Fourth                        | Sixth                     | do                           |
| Do                           | Sixth                         | Eleventh                  | Macadam                      |
| Do                           | Eleventh                      | Twelfth                   | Asphalt, H. B.               |
| C, SW                        | New York avenue               | First                     | do                           |
| Do                           | First                         | Four-and-a-half           | Coal tar                     |
| Do                           | Four-and-a-half               | Sixth                     | do                           |
| Do                           | Sixth                         | Seventh                   | Granite                      |
| Do                           | Ninth                         | Twelfth                   | Asphalt block                |
| Do                           | Twelfth                       | Fourteenth                | do                           |
| California                   | Florida avenue                | Eighteenth                | Asphalt, B. B.               |
| Do                           | Eighteenth                    | Nineteenth                | Asphalt, H. B.               |
| Do                           | Columbia road                 | Phelps place              | Macadam                      |
| Do                           | E and F, NE                   | First and Second          | Asphalt, H. B.               |
| Canal, east side             | B, SW                         | C                         | Gravel                       |
| Canal, west side             | do                            | do                        | Asphalt block                |
| Canal                        | C, SW                         | E                         | Granite                      |
| Canal road                   | Thirty-seventh                | Chain Bridge              | Macadam                      |
| Cambridge                    | Q and U                       | Thirtieth and Avon        | Asphalt, H. B.               |
| Carroll                      | B and C, SE                   | First and Second          | do                           |
| Carroll avenue, Takoma Park. |                               |                           | Gravel                       |
| Caroline                     | T and U                       | Fifteenth and Sixteenth   | Asphalt, B. B.               |
| Cathedral avenue             |                               |                           | Macadam                      |
| Cedar                        | S and T                       | Eighteenth and Nineteenth | Asphalt, H. B.               |
| Central                      |                               |                           | Gravel                       |
| Chapel road                  |                               |                           | do                           |
| Chapin                       | Fourteenth                    | Alley west of Fourteenth  | Asphalt block                |
| Do                           | Alley                         | Westward                  | Granite                      |
| Do                           |                               | Fifteenth                 | Asphalt, B. B.               |
| Chain Bridge road            |                               |                           | Gravel                       |
| Chestnut (Anacostia)         | Maple                         | Arthur                    | do                           |

**OPERATIONS OF THE ENGINEER**

, D. C. 9

*with repairs to asphalt pavements to July 1,*





TABLE D.—*Descriptive list of street pavements and suburban roadways.*

| Street.                      | From—                         | To—                       | Kind of pavement or roadway. |
|------------------------------|-------------------------------|---------------------------|------------------------------|
| Brentwood road               | Florida avenue                | District line             | Gravel                       |
| Brightwood avenue            | do                            | Pomeroy                   | Granite                      |
| Do                           | do                            | Grant                     | Granite                      |
| Do                           | Grant avenue                  | Irving                    | do                           |
| Do                           | Irving                        | Steuben                   | do                           |
| Do                           | do                            | do                        | do                           |
| Do                           | Steuben                       | Rock Creek Church road    | Macadam                      |
| Do                           | Rock Creek Church road.       | District line             | do                           |
| Branch avenue                | Pennsylvania Avenue extended. | Bowen road                | Gravel                       |
| Broad Branch road            |                               |                           | do                           |
| Brown street                 | Howard                        | Laurel                    | do                           |
| Bunker Hill road             | Lincoln avenue                | Baltimore and Ohio R. R.  | Macadam                      |
| Do                           |                               |                           | Gravel                       |
| C, NW                        | Delaware avenue               | First                     | Granite                      |
| Do                           | New Jersey avenue             | do                        | Asphalt, H. B.               |
| Do                           | Second                        | Third                     | Granite                      |
| Do                           | Third                         | Four-and-a-half           | Asphalt, H. B.               |
| Do                           | Four-and-a-half               | Seventh                   | do                           |
| Do                           | Seventh                       | Eighth                    | Granite                      |
| Do                           | Ninth                         | Tenth                     | Belgian                      |
| Do                           | Tenth                         | Eleventh                  | Cobble                       |
| Do                           | Twelfth                       | Fifteenth                 | do                           |
| Do                           | Eleventh                      | Twelfth                   | Asphalt, H. B.               |
| C, NE                        | Delaware avenue               | First                     | Granite                      |
| Do                           | First                         | Third                     | do                           |
| Do                           | Fourth                        | Sixth                     | Asphalt block                |
| Do                           | Sixth                         | Eighth                    | do                           |
| Do                           | Eighth                        | Tenth                     | do                           |
| Do                           | Tenth                         | Tennessee avenue          | Gravel                       |
| C, SE                        | New York avenue               | Fourth                    | Asphalt block                |
| Do                           | Fourth                        | Sixth                     | do                           |
| Do                           | Sixth                         | Eleventh                  | Macadam                      |
| Do                           | Eleventh                      | Twelfth                   | Asphalt, H. B.               |
| C, SW                        | New York avenue               | First                     | do                           |
| Do                           | First                         | Four-and-a-half           | Coal tar                     |
| Do                           | Four-and-a-half               | Sixth                     | do                           |
| Do                           | Sixth                         | Seventh                   | Granite                      |
| Do                           | Ninth                         | Twelfth                   | Asphalt block                |
| Do                           | Twelfth                       | Fourteenth                | do                           |
| California                   | Florida avenue                | Eighteenth                | Asphalt, B. B.               |
| Do                           | Eighteenth                    | Nineteenth                | Asphalt, H. B.               |
| Do                           | Columbia road                 | Phelps place              | Macadam                      |
| Do                           | E and F, NE                   | First and Second          | Asphalt, H. B.               |
| Canal, east side             | B, SW                         | C                         | Gravel                       |
| Canal, west side             | do                            | do                        | Asphalt block                |
| Canal                        | C, SW                         | E                         | Granite                      |
| Canal road                   | Thirty-seventh                | Chain Bridge              | Macadam                      |
| Cambridge                    | Q and U                       | Thirtieth and Avon        | Asphalt, H. B.               |
| Carroll                      | B and C, SE                   | First and Second          | do                           |
| Carroll avenue, Takoma Park. |                               |                           | Gravel                       |
| Caroline                     | T and U                       | Fifteenth and Sixteenth   | Asphalt, B. B.               |
| Cathedral avenue             |                               |                           | Macadam                      |
| Cedar                        | S and T                       | Eighteenth and Nineteenth | Asphalt, H. B.               |
| Central                      |                               |                           | Gravel                       |
| Chapel road                  |                               |                           | do                           |
| Chapin                       | Fourteenth                    | Alley west of Fourteenth  | Asphalt block                |
| Do                           | Alley                         | Westward                  | Granite                      |
| Do                           |                               | Fifteenth                 | Asphalt, B. B.               |
| Chain Bridge road            |                               |                           | Gravel                       |
| Chestnut (Anacostia)         | Maple                         | Arthur                    | do                           |



repairs to asphalt pavements to July 1,



with repairs to asphalt pavements to July 1, 1902—Continued.

| Year laid. | Square yards. | Price per square yard. | Original cost. | Resurfaced. |                       | Repairs—average annual cost per square yard. |                    |               | Remarks.                        |
|------------|---------------|------------------------|----------------|-------------|-----------------------|--|--------------------|---------------|---------------------------------|
|            |               |                        |                | Year.       | Cost per square yard. | Prior to resurfacing.                        | Since resurfacing. | Current year. |                                 |
| 1894       | 2,360         | \$2.18½                | \$4,809.00     |             | 0                     | 0  | 0                  | 0             | Hydraulic base.                 |
| 1894       | 2,694         |                        | 13,316.00      |             |                       |  |                    |               |                                 |
| 1894       | 1,711         |                        |                |             |                       |  |                    |               |                                 |
| 1898       | 8,339         | 2.00                   | 19,797.00      | 1901        |                       | \$0.044                                      |                    | 0             |                                 |
| 1897       | 1,308         | 1.63                   | 2,724.00       |             | 0                     | 0  | 0                  | 0             |                                 |
| 1898       | 8,057         | 1.57                   | 19,587.00      |             | 0                     | 0  | 0                  | 0             |                                 |
| 1900       | 3,024         | 1.80                   | 8,677.00       |             | 0                     | 0  | 0                  | 0             | Permit.                         |
|            | 3,000         |                        |                |             |                       |  |                    |               |                                 |
| 1900       | 2,466         | 1.77                   | 4,072.00       |             |                       |  |                    |               |                                 |
| 1892       | 6,779         | 2.42                   | 20,496.00      |             |                       |  |                    |               |                                 |
| 1874       | 4,315         | 3.20                   | 13,808.00      | 1880        | \$1.11                |  | \$0.019            | \$0.0037      |                                 |
| 1896       | 3,973         | 1.77                   | 8,689.00       |             |                       |  |                    |               |                                 |
|            | 2,000         |                        |                |             |                       |  |                    |               |                                 |
|            | 4,700         |                        |                |             |                       |  |                    |               |                                 |
| 1901       | 3,270         | 1.77                   | 7,619.00       |             |                       |  |                    |               |                                 |
| 1900       | 8,416         |                        |                |             |                       |  |                    |               |                                 |
| 1896       | 5,840         | 1.63                   | 13,403.00      |             | 0                     | 0  | 0                  | 0             |                                 |
| 1901       | 5,080         | .99½                   | 8,826.00       |             |                       |  |                    |               |                                 |
| 1890       | 3,154         | 2.00                   | 9,042.00       |             | 0                     | 0  | 0                  | 0             |                                 |
| 1898       | 7,208         | 2.00                   | 18,132.00      |             |                       | .022   |                    | .055          |                                 |
| 1875       | 2,304         | 3.50                   | 8,063.00       |             |                       |  |                    |               | 4-inch base                     |
| 1875       | 20,436        | 1.50                   |                |             |                       |  |                    |               |                                 |
| 1876       | 6,032         | 1.50                   | 9,048.00       |             |                       |  |                    |               |                                 |
| 1875       | 4,500         |                        |                |             |                       |  |                    |               |                                 |
| 1895       | 2,435         | 1.94                   | 4,911.00       |             | 0                     | 0  | 0                  | 0             |                                 |
| 1897       | 2,645         | 1.63                   | 5,305.00       |             | 0                     | 0  | 0                  | 0             |                                 |
| 1875       | 1,906         | 1.94                   | 4,713.00       |             | 0                     | 0  | 0                  | 0             |                                 |
| 1895       | 3,000         |                        |                |             |                       |  |                    |               |                                 |
| 1895       | 2,402         | 1.94                   | 6,767.00       |             | 0                     | 0  | 0                  | 0             |                                 |
| 1899       | 6,428         | 1.76                   | 15,184.00      |             | 0                     | 0  | 0                  | 0             |                                 |
| 1895       | 3,042         | .57½                   | 2,288.00       |             |                       |  |                    |               | Private cost.                   |
| 1897       | 8,793         | .86                    | 9,793.00       |             |                       |  |                    |               |                                 |
| 1898       | 6,314         | .77½                   | 6,788.00       |             |                       |  |                    |               |                                 |
| 1892       | 13,109        | .99½                   | 24,780.00      |             |                       |  |                    |               |                                 |
|            | 5,000         |                        |                |             |                       |  |                    |               |                                 |
|            | 2,360         |                        |                |             |                       |  |                    |               |                                 |
|            | 5,000         |                        |                |             | 0                     | 0  | 0                  | 0             |                                 |
|            | 2,000         |                        |                |             |                       |  |                    |               |                                 |
| 1899       | 1,692         | 2.00                   | 4,218.00       |             | 0                     | .004   |                    | 0             |                                 |
| 1897       | 3,802         | 1.98                   | 10,809.00      |             | 0                     | .034   |                    | .06           |                                 |
| 1872       | 9,179         | 3.20                   | 29,373.00      | 1879        | .75                   |  | .042               | .009          | In place of coal tar. Widening. |
| 1894       | 1,394         | 2.18                   | 3,893.00       |             |                       |  |                    |               |                                 |
| 1901       | 1,281         |                        |                |             |                       |  |                    |               |                                 |
| 1872       | 2,514         | 3.20                   | 8,045.00       | 1884        | 1.56                  | .014   | .047               | .0053         |                                 |
|            |               |                        |                | 1878        | .60                   | .017   |                    |               |                                 |
| 1872       | 12,583        | 3.20                   | 40,267.00      | 1896        | .315                  |  |                    |               |                                 |
|            |               |                        |                | 1899        |                       |  |                    |               | Do.<br>Do                       |
| 1895       | 1,565         | 2.19                   | 3,715.00       |             |                       |  |                    |               |                                 |
| 1900       | 1,147         |                        |                |             |                       |  |                    |               |                                 |
|            |               |                        |                |             |                       |  |                    |               |                                 |
| 1872       | 10,275        | 3.20                   | 32,882.00      | 1878        | 1.40                  |  | .026               |               |                                 |
|            |               |                        |                | 1882        |                       |  | .039               |               |                                 |
|            |               |                        |                | 1892        |                       |  | .014               | .0012         | In place of coal tar.           |
|            |               |                        |                | 1899        |                       |  |                    |               |                                 |
| 1878       | 9,511         | 3.50                   | 33,288.00      |             |                       |  |                    |               |                                 |
| 1890       | 2,808         | 2.00                   | 7,420.00       |             |                       | .017   |                    | .004          |                                 |
|            |               |                        |                |             |                       |  |                    |               |                                 |
| 1902       | 4,178         | 1.77                   | 12,008.72      |             |                       |  |                    |               |                                 |
| 1898       | 2,100         | .23                    | 2,968.00       |             |                       |  |                    |               |                                 |
| 1891       | 1,768         | .96                    | 3,212.00       |             |                       |  |                    |               |                                 |
| 1897       | 552           | 1.63                   |                |             | 0                     | 0  | 0                  | 0             |                                 |
| 1894       | 5,800         |                        |                |             |                       |  |                    |               |                                 |
| 1891       | 1,730         | 2.00                   | 8,085.00       |             |                       |  |                    |               | In place of coal tar.           |
| 1893       | 8,737         | 1.05                   | 11,399.00      |             |                       |  |                    |               |                                 |
| 1891       | 6,517         |                        | 18,680.00      |             |                       |  |                    |               |                                 |
| 1898       | 2,476         |                        | 5,545.00       |             | 0                     | 0  | 0                  | 0             |                                 |
| 1874       | 5,933         | 3.20                   | 18,986.00      | 1881        | 1.46                  |  | .015               | 0             |                                 |

# PLANS OF THE ENGINEER DEPARTMENT. D. C.

Table 3—Plans of street pavements and suburban roadways.

| From—                         | To—                         | Kind of pavement or roadway. |
|-------------------------------|-----------------------------|------------------------------|
| Water                         | Capital                     | Asphalt block                |
| Seventeenth                   | Macadam                     | Cobble                       |
| Twenty-third                  | Macadam                     |                              |
| Fourth and Tenth              | do                          | Asphalt, H. B.               |
| Gravel                        |                             |                              |
| do                            |                             |                              |
| Asphalt, H. B.                |                             |                              |
| Fourth                        | Granite                     |                              |
| Seventh                       | Coal tar                    |                              |
| Thirteenth                    | do                          |                              |
| Fourteenth                    | do                          |                              |
| Fifteenth                     | Asphalt, H. B.              |                              |
| Vermont avenue                | do                          |                              |
| Connecticut avenue            | Asphalt                     |                              |
| Pennsylvania avenue           | Asphalt, H. B.              |                              |
| Twenty-second                 | Coal tar                    |                              |
| Twenty-third                  | Asphalt, H. B.              |                              |
| Twenty-fifth                  | Cobble                      |                              |
| First                         | Asphalt, H. B.              |                              |
| Fifteenth                     | do                          |                              |
| do                            | Asphalt, B. B.              |                              |
| First                         | Macadam                     |                              |
| Second                        | Gravel                      |                              |
| Third                         | Asphalt, B. B.              |                              |
| Four-and-a-half               | Asphalt, H. B.              |                              |
| Seventh                       | do                          |                              |
| Ninth                         | do                          |                              |
| Water                         | Granite                     |                              |
| Navy-yard bridge eastward.    | Gravel                      |                              |
| Extended to Minnesota avenue. | Vitrified brick             |                              |
|                               | Asphalt, H. B.              |                              |
|                               | do                          |                              |
| Tenth                         | Thirteenth                  | Gravel                       |
| Brightwood avenue             | do                          |                              |
| Thirteenth                    | Fourteenth                  | Asphalt block                |
| Maple                         | Arthur                      | Gravel                       |
| First and Second              | E and F                     | Asphalt block                |
| Q and R                       | Twentieth and Twenty-first. | do                           |
| Whitney avenue                | Spring road                 | Gravel                       |
| O and P                       | Twentieth and Twenty-first. | Asphalt                      |
| Brightwood avenue             | Sixth                       | Macadam                      |
| Fourteenth                    | Seventeenth                 | do                           |
| Eighteenth                    | 500 feet west               | do                           |
| Fourteenth                    | University place            | Asphalt block                |
| North Capitol                 | New Jersey avenue           | Coal tar                     |
| Second                        | Fifth                       | Asphalt, H. B.               |
| Fifth                         | Eighth                      | do                           |
| Eighth                        | Ninth                       | do                           |
| Ninth                         | Tenth                       | do                           |
| Tenth                         | Eleventh                    | do                           |
| Eleventh                      | Thirteenth                  | Coal tar                     |
| Thirteenth                    | Fifteenth                   | Asphalt, H. B.               |
| Fifteenth                     | Seventeenth                 | Coal tar                     |
| Seventeenth                   | Eighteenth                  | Asphalt, H. B.               |
| Eighteenth                    | Pennsylvania avenue         | do                           |
| Pennsylvania avenue           | Twenty-third                | Asphalt                      |
| Twenty-third                  | New Hampshire avenue        | Asphalt, H. B.               |



TABLE D.—*Descriptive list of street pavements and suburban roadways.*

| Street.                        | From—  | To—                        | Kind of pavement or roadway. |
|--------------------------------|--|----------------------------|------------------------------|
| I, NW .....                    | New Hampshire avenue.  | Twenty-sixth .....         | Asphalt, H. B.               |
| I, NE .....                    | North Capitol .....  | First .....                | Asphalt, B. B. ....          |
| Do .....                       | Sixth .....  | Seventh .....              | Macadam .....                |
| Do .....                       | Seventh .....  | Florida avenue .....       | Gravel .....                 |
| I, SE .....                    | South Capitol .....  | New Jersey avenue .....    | Granite .....                |
| Do .....                       | Second .....   | Third .....                | Macadam .....                |
| Do .....                       | Third .....  | Eighth .....               | do .....                     |
| Do .....                       | Eighth .....   | Eleventh .....             | Asphalt, H. B. ....          |
| Do .....                       | Eleventh .....   | Thirteenth .....           | Gravel .....                 |
| I, SW .....                    | Canal .....  | First .....                | Macadam .....                |
| Do .....                       | First .....  | Third .....                | Gravel .....                 |
| Do .....                       | Third .....  | Sixth .....                | Asphalt block .....          |
| Do .....                       | Sixth .....  | Water .....                | Gravel .....                 |
| Illinois avenue .....          | Rock Creek Church road.                                      | Grant circle .....         | do .....                     |
| Irving place .....             | Thirtieth .....  | Avon .....                 | Asphalt, H. B. ....          |
| Irving .....                   | Brightwood avenue .....                                      | Thirteenth .....           | Gravel .....                 |
| Indiana avenue .....           | First .....  | Third .....                | Asphalt .....                |
| Indiana and Louisiana avenues. | Third .....  | Seventh .....              | Granite .....                |
| Do .....                       | do .....   | do .....                   | Asphalt, H. B. ....          |
| Do .....                       | do .....   | do .....                   | Vitrified block .....        |
| Jackson .....                  | G and H .....  | First E and First W .....  | Cobble .....                 |
| Do .....                       | Nichols avenue .....   | Taylor .....               | Gravel .....                 |
| James .....                    | G and H, NE .....  | Twelfth and Thirteenth NE. | Macadam .....                |
| Jefferson .....                | K (Georgetown) .....   | M .....                    | Cobble .....                 |
| Do .....                       | Nichols avenue .....   | Taylor .....               | Gravel .....                 |
| Jefferson place .....          | M and N, NW .....  | Eighteenth and Nineteenth. | Asphalt block .....          |
| Johnson .....                  | R and S .....  | Fourteenth and Fifteenth.  | Asphalt, B. B. ....          |
| Joliet .....                   | Connecticut avenue .....                                     | Zoo entrance .....         | Macadam .....                |
| Do .....                       | Wisconsin avenue .....                                       | Tenallytown road .....     | do .....                     |
| K, NW .....                    | North Capitol .....  | First .....                | Asphalt, H. B. ....          |
| Do .....                       | First .....  | Third .....                | Asphalt .....                |
| Do .....                       | Third .....  | Seventh .....              | Coal tar .....               |
| Do .....                       | North side Mount Vernon square.                              |                            | do .....                     |
| Do .....                       | South side Mount Vernon square.                              |                            | Asphalt, H. B. ....          |
| Do .....                       | Ninth .....  | Eighteenth .....           | Coal tar .....               |
| Do .....                       | Eighteenth .....   | Twenty-third .....         | Asphalt, H. B. ....          |
| Do .....                       | Twenty-third .....   | Rock Creek .....           | Trap rock .....              |
| Do .....                       | Rock Creek .....   | Aqueduct Bridge .....      | Seneca stone .....           |
| Do .....                       | Rock Creek .....   | Aqueduct Bridge .....      | Granite .....                |
| K, NE .....                    | North Capitol .....  | First .....                | Asphalt, B. B. ....          |
| Do .....                       | First .....  | Seventh .....              | Gravel .....                 |
| Do .....                       | Eleventh .....   | Twelfth .....              | Macadam .....                |
| K, SE .....                    | South Capitol .....  | Second .....               | do .....                     |
| Do .....                       | Second .....   | Sixth .....                | Gravel .....                 |
| Do .....                       | Virginia avenue .....  | Fourteenth .....           | do .....                     |
| K, SW .....                    | South Capitol .....  | First .....                | Granite .....                |
| Do .....                       | First .....  | Water .....                | Macadam .....                |
| Kalorama .....                 | Eighteenth .....   | Columbia road .....        | Asphalt block .....          |
| Do .....                       | Nineteenth .....   | Westward .....             | Asphalt .....                |
| Kansas avenue .....            | Brightwood avenue .....                                      | Trenton .....              | Gravel .....                 |
| Kenesaw .....                  | Brightwood avenue to Thirteenth and Fourteenth to Sixteenth. |                            | do .....                     |
| Do .....                       | Thirteenth .....   | Fourteenth .....           | Asphalt block .....          |
| Kenesaw and Park road .....    | do .....   | do .....                   | Macadam .....                |
| Kentucky avenue .....          | East Capitol .....   | B .....                    | Gravel .....                 |
| Kenyon .....                   | Thirteenth .....   | Fourteenth .....           | Asphalt, H. B. ....          |
| Kingman place .....            | P and Q, Thirteenth and Fourteenth.                          |                            | Asphalt .....                |

repairs to asphalt pavements to July 1, 1902—Continued.

| No.   | Square yards. | Price per square yard. | Original cost. | Resurfaced. |                       | Repairs—average annual cost per square yard. |                    |               | Remarks.                        |
|-------|---------------|------------------------|----------------|-------------|-----------------------|--|--------------------|---------------|---------------------------------|
|       |               |                        |                | Year.       | Cost per square yard. | Prior to resurfacing.                        | Since resurfacing. | Current year. |                                 |
| 4     | 2,300         | \$2.18½                | \$4,899.00     | -----       | 0                     | 0  | 0                  | 0             | Hydraulic base.                 |
| 4     | 2,694         | -----                  | 13,816.00      | -----       | -----                 | -----  | -----              | -----         |                                 |
| 4     | 1,711         | -----                  |                | -----       | -----                 | -----  | -----              | -----         |                                 |
| 8     | 8,339         | 2.00                   | 19,797.00      | 1901        | -----                 | \$0.044                                      | -----              | 0             |                                 |
| 7     | 1,308         | 1.63                   | 2,724.00       | -----       | 0                     | 0  | 0                  | 0             |                                 |
| 8     | 8,057         | 1.57                   | 19,587.00      | -----       | 0                     | 0  | 0                  | 0             |                                 |
| 0     | 3,024         | 1.80                   | 8,677.00       | -----       | 0                     | 0  | 0                  | 0             |                                 |
| 0     | 3,000         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         | Permit.                         |
| 0     | 2,488         | 1.77                   | 4,072.00       | -----       | -----                 | -----  | -----              | -----         |                                 |
| 2     | 6,779         | 2.42                   | 20,496.00      | -----       | -----                 | -----  | -----              | -----         |                                 |
| 4     | 4,315         | 3.20                   | 13,808.00      | 1880        | \$1.11                | -----  | \$0.019            | \$0.0037      |                                 |
| 6     | 3,973         | 1.77                   | 8,689.00       | -----       | -----                 | -----  | -----              | -----         |                                 |
| ----- | 2,000         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         |                                 |
| ----- | 4,700         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         |                                 |
| 1     | 3,270         | 1.77                   | 7,619.00       | -----       | -----                 | -----  | -----              | -----         |                                 |
| 0     | 8,416         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         |                                 |
| 6     | 5,840         | 1.63                   | 13,403.00      | -----       | 0                     | 0  | 0                  | 0             |                                 |
| 1     | 5,080         | .99½                   | 8,826.00       | -----       | -----                 | -----  | -----              | -----         | 4-inch base                     |
| 0     | 3,154         | 2.00                   | 9,042.00       | -----       | 0                     | 0  | 0                  | 0             |                                 |
| 8     | 7,208         | 2.00                   | 18,132.00      | -----       | -----                 | .022   | -----              | .055          |                                 |
| 5     | 2,304         | 3.50                   | 8,063.00       | -----       | -----                 | -----  | -----              | -----         |                                 |
| 5     | 20,436        | 1.50                   | -----          | -----       | -----                 | -----  | -----              | -----         |                                 |
| 6     | 6,032         | 1.50                   | 9,048.00       | -----       | -----                 | -----  | -----              | -----         |                                 |
| 5     | 4,500         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         |                                 |
| 5     | 2,435         | 1.94                   | 4,911.00       | -----       | 0                     | 0  | 0                  | 0             |                                 |
| 7     | 2,645         | 1.63                   | 5,305.00       | -----       | 0                     | 0  | 0                  | 0             |                                 |
| 5     | 1,906         | 1.94                   | 4,713.00       | -----       | 0                     | 0  | 0                  | 0             |                                 |
| 5     | 3,000         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         | Private cost.                   |
| 5     | 2,402         | 1.94                   | 6,767.00       | -----       | 0                     | 0  | 0                  | 0             |                                 |
| 9     | 6,428         | 1.76                   | 15,184.00      | -----       | 0                     | 0  | 0                  | 0             |                                 |
| 5     | 3,042         | .57½                   | 2,288.00       | -----       | -----                 | -----  | -----              | -----         |                                 |
| 7     | 8,793         | .86                    | 9,793.00       | -----       | -----                 | -----  | -----              | -----         |                                 |
| 6     | 6,314         | .77½                   | 6,788.00       | -----       | -----                 | -----  | -----              | -----         |                                 |
| 2     | 13,109        | .99½                   | 24,790.00      | -----       | -----                 | -----  | -----              | -----         |                                 |
| ----- | 5,000         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         |                                 |
| ----- | 2,380         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         |                                 |
| ----- | 5,000         | -----                  | -----          | -----       | 0                     | 0  | 0                  | 0             |                                 |
| ----- | 2,000         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         | In place of coal tar. Widening. |
| 9     | 1,692         | 2.00                   | 4,218.00       | -----       | 0                     | .004   | -----              | 0             |                                 |
| 7     | 3,802         | 1.98                   | 10,809.00      | -----       | 0                     | .034   | -----              | .06           |                                 |
| 2     | 9,179         | 3.20                   | 29,373.00      | 1879        | .75                   | -----  | .042               | .009          |                                 |
| 4     | 1,394         | 2.18                   | 3,893.00       | -----       | -----                 | -----  | -----              | -----         |                                 |
| 1     | 1,281         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         |                                 |
| 2     | 2,514         | 3.20                   | 8,045.00       | 1884        | 1.56                  | .014   | .047               | .0053         |                                 |
| ----- | -----         | -----                  | -----          | 1878        | .60                   | .017   | -----              | -----         |                                 |
| 2     | 12,583        | 3.20                   | 40,267.00      | 1886        | .315                  | -----  | -----              | -----         |                                 |
| ----- | -----         | -----                  | -----          | 1889        | -----                 | -----  | -----              | -----         |                                 |
| 5     | 1,565         | 2.19                   | 3,715.00       | -----       | -----                 | -----  | -----              | -----         | Do. Do                          |
| 0     | 1,147         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         |                                 |
| 2     | 10,275        | 3.20                   | 32,882.00      | 1878        | 1.40                  | -----  | .028               | -----         |                                 |
| ----- | -----         | -----                  | -----          | 1882        | -----                 | -----  | .039               | -----         |                                 |
| ----- | -----         | -----                  | -----          | 1892        | -----                 | -----  | .014               | .0012         |                                 |
| ----- | -----         | -----                  | -----          | 1899        | -----                 | -----  | -----              | -----         |                                 |
| 3     | 9,511         | 3.50                   | 33,288.00      | -----       | -----                 | -----  | -----              | -----         |                                 |
| 0     | 2,308         | 2.00                   | 7,420.00       | -----       | -----                 | .017   | -----              | .004          |                                 |
| 2     | 4,178         | 1.77                   | 12,006.72      | -----       | -----                 | -----  | -----              | -----         |                                 |
| 3     | 2,100         | .23                    | 2,966.00       | -----       | -----                 | -----  | -----              | -----         | In place of coal tar.           |
| 1     | 1,768         | .96                    | 3,212.00       | -----       | -----                 | -----  | -----              | -----         |                                 |
| 7     | 562           | 1.63                   | -----          | -----       | 0                     | 0  | 0                  | 0             |                                 |
| 4     | 5,300         | -----                  | -----          | -----       | -----                 | -----  | -----              | -----         |                                 |
| 1     | 1,730         | 2.00                   | 8,085.00       | -----       | -----                 | -----  | -----              | -----         |                                 |
| 3     | 3,737         | 1.05                   | 11,399.00      | -----       | -----                 | -----  | -----              | -----         |                                 |
| 1     | 6,517         | -----                  | 18,690.00      | -----       | -----                 | -----  | -----              | -----         |                                 |
| 4     | 2,476         | -----                  | 5,545.00       | -----       | 0                     | 0  | 0                  | 0             | In place of coal tar.           |
| 4     | 5,933         | 3.20                   | 18,986.00      | 1881        | 1.46                  | -----  | .015               | 0             |                                 |

TABLE D.—*Descriptive list of street pavements and suburban roadways.*

| Street.             | From—   | To—                         | Kind of pavement or roadway. |
|---------------------|---|-----------------------------|------------------------------|
| G, SW               | Eighth  | Water                       | Capital                      |
| Gales               | Fifteenth   | Seventeenth                 | Asphalt block                |
| Good Hope road      |   |                             | Macadam                      |
| Grace               | Thirty-second   | Thirty-third                | Cobble                       |
| Grant avenue        | Brightwood avenue   | Florida avenue              | Macadam                      |
| Grant               | Sixteenth   | Eighteenth                  | do                           |
| Grant place         | G and H, NW   | Ninth and Tenth             | Asphalt, H. B.               |
| Grant road          |   |                             | Gravel                       |
| Grant (Pleasant)    | Nichols avenue  | Fillmore                    | do                           |
| H, NW               | North Capitol   | First                       | Asphalt, H. B.               |
| Do                  | First   | Fourth                      | Granite                      |
| Do                  | Fourth  | Seventh                     | Coal tar                     |
| Do                  | Seventh   | Thirteenth                  | do                           |
| Do                  | Thirteenth  | Fourteenth                  | do                           |
| Do                  | Fourteenth  | Fifteenth                   | Asphalt, H. B.               |
| Do                  | Fifteenth   | Vermont avenue              | do                           |
| Do                  | Vermont avenue  | Connecticut avenue          | Asphalt                      |
| Do                  | Connecticut avenue  | Pennsylvania avenue         | Asphalt, H. B.               |
| Do                  | Pennsylvania avenue   | Twenty-second               | Coal tar                     |
| Do                  | Twenty-second   | Twenty-third                | Asphalt, H. B.               |
| Do                  | Twenty-third  | Twenty-fifth                | Cobble                       |
| H, NE               | North Capitol   | First                       | Asphalt, H. B.               |
| H, NE. (north side) | First   | Fifteenth                   | do                           |
| H, NE. (south side) | do  | do                          | Asphalt, B. B.               |
| H, SW               | One-half  | First                       | Macadam                      |
| H, SE               | First   | Second                      | Gravel                       |
| H, SW               | do  | Third                       | Asphalt, B. B.               |
| Do                  | Third   | Four-and-a-half             | Asphalt, H. B.               |
| Do                  | Four-and-a half   | Seventh                     | do                           |
| Do                  | Seventh   | Ninth                       | do                           |
| Do                  | Ninth   | Water                       | Granite                      |
| Harewood road       |   |                             | Gravel                       |
| Harrison            | Navy-yard bridge eastward.<br>Extended to Minnesota avenue. |                             | Vitrified block              |
| Do                  |   |                             | Asphalt, H. B.               |
| Do                  |   |                             | do                           |
| Hartford            | Tenth   | Thirteenth                  | Gravel                       |
| Harvard             | Brightwood avenue   | do                          | do                           |
| Do                  | Thirteenth  | Fourteenth                  | Asphalt block                |
| High                | Maple   | Arthur                      | Gravel                       |
| Heckman, SE         | First and Second  | E and F                     | Asphalt block                |
| Hillyer             | Q and R   | Twentieth and Twenty-first. | do                           |
| Holmead             | Whitney avenue  | Spring road                 | Gravel                       |
| Hopkins             | O and P   | Twentieth and Twenty-first. | Asphalt                      |
| Howard              | Brightwood avenue   | Sixth                       | Macadam                      |
| Do                  | Fourteenth  | Seventeenth                 | do                           |
| Do                  | Eighteenth  | 500 feet west               | do                           |
| Huntington place    | Fourteenth  | University place            | Asphalt block                |
| I, NW               | North Capitol   | New Jersey avenue           | Coal tar                     |
| Do                  | Second  | Fifth                       | Asphalt, H. B.               |
| Do                  | Fifth   | Eighth                      | do                           |
| Do                  | Eighth  | Ninth                       | do                           |
| Do                  | Ninth   | Tenth                       | do                           |
| Do                  | Tenth   | Eleventh                    | do                           |
| Do                  | Eleventh  | Thirteenth                  | Coal tar                     |
| Do                  | Thirteenth  | Fifteenth                   | Asphalt, H. B.               |
| Do                  | Fifteenth   | Seventeenth                 | Coal tar                     |
| Do                  | Seventeenth   | Eighteenth                  | Asphalt, H. B.               |
| Do                  | Eighteenth  | Pennsylvania avenue         | do                           |
| Do                  | Pennsylvania avenue   | Twenty-third                | Asphalt                      |
| Do                  | Twenty-third  | New Hampshire avenue        | Asphalt, H. B.               |



*with repairs to asphalt pavements to July 1,*

TABLE D.—*Descriptive list of street pavements and suburban roadways.*

| Street.  | From—                                      | To—                          | Kind of pavement or roadway. |
|--|--|------------------------------|------------------------------|
| M & W  | Four-and-a-half                            | Water                        | Granite                      |
| Madison  | P and Q                                    | Fifteenth and Seventeenth    | Coal tar                     |
| Do   | do   | Seventeenth and Eighteenth   | Asphalt, B. B.               |
| Do   | M and N                                    | Sixth and Seventh            | do                           |
| M Loan avenue                                    | N and O                                    | Third and Four-and-a-half    | Asphalt block                |
| Maple  | Cherry                                     | Oak                          | Gravel                       |
| Maple Park                                       | B & O. R. R.                               | District line                | do                           |
| Maple  | Florida avenue                             | Second                       | Asphalt, B. B.               |
| Do   | Seventh                                    | Fourth                       | Asphalt, H. B.               |
| Maple  | Pleasant                                   | High                         | Gravel                       |
| Marblehead                                       | Third                                      | Sixth                        | Cobble                       |
| Marblehead                                       | P and Q                                    | Sixth and Seventh            | Asphalt, B. B.               |
| Maryland avenue NE                               | First                                      | Fourth                       | Asphalt block                |
| Do   | Sixth                                      | Eleventh                     | do                           |
| Do   | Eleventh                                   | Thirteenth                   | do                           |
| Do   | Thirteenth                                 | Fifteenth                    | do                           |
| Do   | Intersection Fifteenth.                    | Asphalt, H. B.               |                              |
| Maryland avenue SW                               | First                                      | Third                        | do                           |
| Do   | Third                                      | Four-and-a-half              | Asphalt                      |
| Do   | Four-and-a-half                            | Seventh                      | Cobble                       |
| Do   | Third                                      | do                           | Rubbi                        |
| Do   | Seventh                                    | Fourteenth                   | Belgian                      |
| Massachusetts avenue SW                          | North Capitol                              | New Jersey avenue            | Coal tar                     |
| Do   | New Jersey avenue                          | Third                        | Asphalt, H. B.               |
| Massachusetts avenue NW south side               | Fourth                                     | Seventh                      | do                           |
| Massachusetts avenue NW north side               | do   | do                           | do                           |
| Massachusetts avenue NW                          | Intersection Fourth.                       | do                           | do                           |
| Do   | Intersection Fifth.                        | do                           | do                           |
| Do   | Ninth                                      | Thirteenth                   | do                           |
| Do   | Thirteenth                                 | Fourteenth                   | Asphalt, B. B.               |
| Do   | Fourteenth                                 | Twentieth                    | Coal tar                     |
| Do   | Highland Terrace, Fourteenth to Fifteenth. | do                           | do                           |
| Triangular reservation east of Twentieth street. |  |                              |                              |
| Massachusetts avenue NW                          | Twentieth                                  | Florida avenue               | do                           |
| Do   | Florida avenue                             | Sheridan circle              | Asphalt, H. B.               |
| Sheridan circle                                  |  |                              | do                           |
| Massachusetts avenue NW                          | Circle                                     | Belmont                      | Macadam                      |
| Massachusetts avenue NE                          | North Capitol                              | First                        | Asphalt, H. B.               |
| Do   | First                                      | Second                       | Asphalt block                |
| Do   | Second                                     | Fourth                       | Asphalt, H. B.               |
| Do   | do   | do                           | do                           |
| Do   | Sixth                                      | Eighth                       | Asphalt block                |
| Do   | Eighth                                     | Eleventh                     | do                           |
| Michigan avenue                                  | North Capitol                              | Lincoln avenue               | Macadam                      |
| Military road                                    |  |                              | do                           |
| Do   |  |                              | Gravel                       |
| Milwaukee  |  |                              | do                           |
| Minnesota avenue                                 | Harrison                                   | Pennsylvania avenue          | do                           |
| Missouri avenue                                  | Third                                      | Four-and-a-half              | Granite                      |
| Do   | Four-and-a-half                            | Sixth                        | Asphalt block                |
| Morgan   | M and N                                    | New Jersey avenue and Kirby. | Asphalt, H. B.               |
| Do   | Lydecker                                   | Spring road                  | Gravel                       |
| Morris place                                     | F and G, NE                                | Sixth and Seventh            | Asphalt block                |
| Murdock Mill road                                |  |                              | Gravel                       |
| Myrtle   | I and K                                    | North Capitol and First      | Asphalt, B. B.               |

repairs to asphalt pavements to July 1, 1902—Continued.

| R<br>l. | Square<br>yards. | Price<br>per<br>square<br>yard. | Original<br>cost. | Resurfaced. |                                | Repairs—average an-<br>nual cost per square<br>yard. |                            |                       | Remarks.     |
|---------|------------------|---------------------------------|-------------------|-------------|--------------------------------|--|----------------------------|-----------------------|--------------|
|         |                  |                                 |                   | Year.       | Cost<br>per<br>square<br>yard. | Prior<br>to re-<br>surfacing.                        | Since<br>resur-<br>facing. | Cur-<br>rent<br>year. |              |
| 8       | 3,136            | \$1.54                          | \$7,064.00        | -----       | 0                              | 0  | 0                          | 0                     |              |
| 9       | 3,294            | 2.00                            | 8,809.00          | -----       | 0                              | 0  | 0                          | \$0.003               |              |
|         | 2,200            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
|         | 7,000            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 0       | 3,867            | -----                           | 4,068.00          | -----       | -----                          | -----  | -----                      | -----                 |              |
| 2       | 1,292            | .95                             | 2,204.00          | -----       | -----                          | -----  | -----                      | -----                 |              |
| 1       | 4,249            | .93                             | 6,796.00          | -----       | -----                          | -----  | -----                      | -----                 |              |
| 3       | 3,214            | 1.63                            | 9,352.00          | -----       | 0                              | 0  | 0                          | 0                     |              |
|         | 3,100            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 1       | 1,424            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 9       | 3,530            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 | 4-inch base. |
| 3       | 4,850            | 1.77                            | 10,493.00         | -----       | -----                          | -----  | -----                      | -----                 |              |
|         | 2,600            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 0       | 8,400            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 3       | 1,251            | 2.00                            | 2,725.00          | -----       | 0                              | 0  | 0                          | 0                     |              |
| 3       | 6,493            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 7       | 8,529            | 2.00                            | 23,824.00         | -----       | 0                              | \$0.007  | -----                      | 0.015                 |              |
| 1       | 9,038            | 2.00                            | 33,149.00         | -----       | -----                          | -----  | -----                      | -----                 |              |
| 1       | 4,054            | 1.85                            | 6,889.00          | -----       | 0                              | .015   | -----                      | .017                  |              |
| 7       | 205              | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
|         | 3,800            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 | Permit work. |
|         | 7,500            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
|         | 1,400            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 1       | 2,839            | .70                             | 1,987.00          | -----       | -----                          | -----  | -----                      | -----                 |              |
|         | 7,500            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 1       | 1,393            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 9       | 1,448            | -----                           | 3,887.00          | -----       | 0                              | 0  | 0                          | 0                     |              |
| 9       | 850              | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 2       | -----            | -----                           | 18,778.10         | -----       | -----                          | -----  | -----                      | -----                 |              |
| 9       | 4,537            | 1.76                            | 9,859.00          | -----       | 0                              | 0  | 0                          | 0                     |              |
| 4       | 3,984            | -----                           | 7,130.00          | -----       | 0                              | 0  | 0                          | 0                     | Rubble base. |
| 4       | 8,384            | 3.20                            | 26,829.00         | 1878        | \$1.65                         | -----  | \$0.015                    | -----                 |              |
|         | -----            | -----                           | -----             | 1889        | .487                           | -----  | -----                      | -----                 |              |
|         | -----            | -----                           | -----             | 1894        | .90                            | -----  | .034                       | .023                  |              |
| 3       | 1,800            | 8.20                            | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 5       | 2,000            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 5       | 27,551           | 3.00                            | 82,654.00         | 1889        | .06                            | .007   | -----                      | -----                 |              |
|         | -----            | -----                           | -----             | 1892        | .74                            | -----  | -----                      | -----                 |              |
|         | -----            | -----                           | -----             | 1895        | .557                           | -----  | .025                       | .0048                 |              |
|         | -----            | -----                           | -----             | 1898        | .19                            | -----  | -----                      | -----                 |              |
| 0       | 11,671           | 1.83                            | 21,358.00         | -----       | -----                          | .014   | -----                      | .027                  |              |
| 4       | 7,521            | 3.50                            | 38,813.00         | -----       | -----                          | -----  | -----                      | -----                 |              |
| 4       | 4,906            | 2.50                            | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 3       | 18,021           | -----                           | 63,075.00         | -----       | -----                          | -----  | -----                      | -----                 |              |
| 5       | 4,498            | 2.00                            | 13,513.00         | -----       | 0                              | 0  | 0                          | 0                     |              |
| 9       | 15,000           | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
|         | 1,475            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 1       | 6,000            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
|         | 3,500            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
|         | 2,760            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 4       | 1,708            | -----                           | 5,654.00          | -----       | -----                          | -----  | -----                      | -----                 |              |
| 0       | 7,931            | .57                             | 11,923.00         | -----       | -----                          | -----  | -----                      | -----                 |              |
| 0       | 2,313            | 1.77                            | 4,501.00          | -----       | -----                          | -----  | -----                      | -----                 |              |
|         | 4,600            | -----                           | -----             | -----       | 0                              | 0  | 0                          | 0                     |              |
| 0       | 3,500            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 1       | 10,409           | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
|         | -----            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 0       | 2,548            | 1.77                            | 5,125.00          | -----       | -----                          | -----  | -----                      | -----                 |              |
| 1       | 11,185           | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
|         | 3,755            | -----                           | -----             | -----       | -----                          | -----  | -----                      | -----                 |              |
| 0       | 2,964            | 1.76                            | 5,354.00          | -----       | 0                              | 0  | 0                          | 0                     |              |
| 9       | 1,699            | -----                           | 4,579.00          | -----       | -----                          | .003   | -----                      | .134                  |              |



repairs to asphalt pavements to July 1, 1902—Continued.

| Ward. | Square yards. | Price per square yard. | Original cost. | Resurfaced. |                       | Repairs—average annual cost per square yard. |                    |               | Remarks.   |
|-------|---------------|------------------------|----------------|-------------|-----------------------|--|--------------------|---------------|--|
|       |               |                        |                | Year.       | Cost per square yard. | Prior to resurfacing.                        | Since resurfacing. | Current year. |  |
| 11    | 4,877         |                        |                |             |                       |  |                    |               | Resurfaced, New Hampshire ave. to Twenty-fourth. |
| 10    | 7,600         |                        |                |             |                       |  |                    |               |  |
| 17    | 5,288         |                        | \$13,997.00    |             |                       | \$0.002                                      |                    | \$0.022       |  |
| 17    | 2,665         | \$1.78                 | 4,744.00       |             |                       |  |                    |               |  |
| 17    | 23,890        | 2.18                   | 51,115.00      | 1887        |                       | .002   |                    |               |  |
| 7     | 23,890        | 2.18                   | 51,115.00      | { 1889      |                       |  | \$0.005            |               |  |
|       |               |                        |                | { 1891      |                       |  | .02                |               |  |
| 3     | 2,645         | 2.27                   | 6,017.00       | { 1897      |                       |  | .045               | .033          |  |
|       |               |                        |                |             |                       | .038   |                    | .05           |  |
| 3     | 1,628         | 3.20                   | 5,210.00       | { 1878      | \$1.96                |  | .015               |               |  |
|       |               |                        |                | { 1888      | .58                   |  | .035               | .006          |  |
|       |               |                        |                | { 1902      |                       |  |                    |               |  |
| 3     | 8,141         | 2.26                   | 18,662.00      |             |                       | .043   |                    | .038          |  |
| 4     | 483           | 2.25                   | 1,089.00       |             |                       | .04  |                    | .237          |  |
| 9     | 1,179         | 2.00                   | 2,358.00       |             | 0                     | 0  | 0                  | 0             |  |
| 9     | 1,500         |                        |                |             |                       |  |                    |               |  |
| 11    | 6,000         |                        |                |             |                       |  |                    |               |  |
|       | 2,300         |                        |                |             |                       |  |                    |               |  |
| 7     | 6,030         |                        | 2,700.00       |             |                       |  |                    |               |  |
|       | 7,000         |                        |                |             |                       |  |                    |               |  |
| 9     | 4,332         |                        | 4,681.01       |             |                       |  |                    |               |  |
|       | 3,625         |                        |                |             |                       |  |                    |               |  |
|       | 3,400         |                        |                |             |                       |  |                    |               |  |
| 15    | 1,708         | 1.93                   | 3,817.00       |             | 0                     | 0  | 0                  | 0             |  |
|       | 8,000         |                        |                |             |                       |  |                    |               |  |
|       | 30,000        |                        |                |             |                       |  |                    |               |  |
|       | 10,600        |                        |                |             |                       |  |                    |               |  |
| 10    | 2,702         |                        |                |             | 0                     | 0  | 0                  | 0             |  |
| 10    | 384           |                        |                |             |                       |  |                    |               |  |
| 12    | 784           | 3.25                   | 2,548.00       |             |                       |  |                    |               |  |
| 19    | 1,137         | 1.91                   | 2,274.00       |             |                       |  |                    |               |  |
| 12    | 4,765         | 3.25                   | 15,468.00      |             |                       |  |                    |               |  |
| 11    | 1,850         |                        |                |             |                       |  |                    |               | Resurfaced Seventh to Ninth.                     |
| 14    | 3,600         |                        |                |             |                       |  |                    |               |  |
| 14    | 3,067         | 2.184                  | 7,265.00       |             | 0                     | 0  | 0                  | 0             |  |
| 10    | 2,597         | 2.00                   | 6,711.00       |             |                       | .0013  |                    | 0             |  |
| 10    | 5,564         | 1.85                   | 15,158.00      |             |                       | .012   |                    | .0321         |  |
| 19    | 13,147        | 1.75                   | 32,199.00      | { 1895      | .38                   |  | .035               | .011          |  |
|       |               |                        |                | { 1900      |                       | .04  |                    | .04           |  |
| 11    | 4,573         | 2.08                   | 9,788.00       | 1902        | 0                     | .02  |                    | .06           |  |
| 13    | 5,851         | 3.20                   | 18,723.00      | { 1878      | 1.49                  |  |                    |               |  |
|       |               |                        |                | { 1895      |                       | .026   | .012               | .0147         |  |
| 19    | 6,084         | 1.47                   | 9,143.00       |             |                       | .03  |                    | .007          |  |
| 12    | 9,171         | 2.26                   | 2,188.00       |             |                       | .02  |                    | .044          |  |
| 15    | 500           |                        |                | { 1895      | 2.36                  |  |                    | 0             |  |
| 17    | 1,138         | 2.67                   | 3,039.00       | { 1897      | 1.36                  | .04  |                    | .054          |  |
| 15    | 7,887         | 3.70                   | 31,966.00      | 1888        | .693                  | .15  | .033               | .054          |  |
| 17    | 762           | 1.63                   | 1,928.00       |             | 0                     | 0  | 0                  | 0             |  |
| 18    | 778           | 1.55                   | 1,803.00       |             | 0                     | 0  | 0                  | 0             |  |
| 18    | 3,581         | 1.574                  | 8,736.00       |             | 0                     | 0  | 0                  | 0             |  |
| 17    | 4,476         | 1.63                   | 10,824.00      |             | 0                     | 0  | 0                  | 0             |  |
| 14    | 5,486         | 2.10                   | 15,445.00      |             | 0                     | 0  | 0                  | 0             |  |
| 16    | 7,183         | 1.63                   | 16,788.00      |             | 0                     | 0  | 0                  | 0             |  |
| 15    | 3,449         | .494                   | 2,666.00       |             |                       |  |                    |               |  |
| 16    | 5,724         | .70                    | 4,007.00       |             |                       |  |                    |               |  |
| 16    | 6,973         | 1.50                   | 10,460.00      |             |                       |  |                    |               |  |
|       | 8,454         |                        |                |             |                       |  |                    |               |  |
| 16    | 9,177         | 1.06                   | 9,636.00       |             |                       |  |                    |               |  |
| 11    | 1,125         |                        | 4,120.00       |             |                       |  |                    |               |  |

TABLE D.—*Descriptive list of street pavements and suburban roadways.*

| Street.  | From—                                      | To—                          | Kind of pavement or roadway. |
|--|--|------------------------------|------------------------------|
| M, SW  | Four-and-a-half                            | Water                        | Granite.                     |
| Madison  | P and Q                                    | Fifteenth and Seventeenth    | Coal tar                     |
| Do   | do   | Seventeenth and Eighteenth.  | Asphalt, B. B.               |
| Do   | M and N                                    | Sixth and Seventh            | do                           |
| McLean avenue                                    | N and O                                    | Third and Four-and-a-half    | Asphalt block                |
| Magnolia   | Chestnut                                   | Oak                          | Gravel                       |
| Maple (Takoma)                                   | B. & O. R. R.                              | District line                | do                           |
| Maple (Le Droit Park)                            | Florida avenue                             | Second                       | Asphalt, B. B.               |
| Do   | Second                                     | Fourth                       | Asphalt, H. B.               |
| Maple (Anacostia)                                | Pleasant                                   | High                         | Gravel                       |
| Maine avenue                                     | Third                                      | Sixth                        | Cobble                       |
| Marion   | P and Q                                    | Sixth and Seventh            | Asphalt, B. B.               |
| Maryland avenue NE                               | First                                      | Fourth                       | Asphalt block                |
| Do   | Sixth                                      | Eleventh                     | do                           |
| Do   | Eleventh                                   | Thirteenth                   | do                           |
| Do   | Thirteenth                                 | Fifteenth                    | do                           |
| Do   | Intersection                               | Fifteenth.                   | Asphalt, H. B.               |
| Maryland avenue SW                               | First                                      | Third                        | do                           |
| Do   | Third                                      | Four-and-a-half              | Asphalt                      |
| Do   | Four-and-a-half                            | Seventh                      | Cobble                       |
| Do   | Third                                      | do                           | Rubble                       |
| Do   | Seventh                                    | Fourteenth                   | Belgian                      |
| Massachusetts avenue NW.                         | North Capitol                              | New Jersey avenue            | Coal tar                     |
| Do   | New Jersey avenue                          | Third                        | Asphalt, H. B.               |
| Massachusetts avenue NW. (south side).           | Fourth                                     | Seventh                      | do                           |
| Massachusetts avenue NW. (north side).           | do   | do                           | do                           |
| Massachusetts avenue NW.                         | Intersection Fourth.                       |                              | do                           |
| Do   | Intersection Fifth.                        |                              | do                           |
| Do   | Ninth                                      | Thirteenth                   | do                           |
| Do   | Thirteenth                                 | Fourteenth                   | Asphalt, B. B.               |
| Do   | Fourteenth                                 | Twentieth                    | Coal tar                     |
| Do   | Highland Terrace, Fourteenth to Fifteenth. |                              | do                           |
| Triangular reservation east of Twentieth street. |  |                              | do                           |
| Massachusetts avenue NW.                         | Twentieth                                  | Florida avenue               | do                           |
| Do   | Florida avenue                             | Sheridan circle              | Asphalt, H. B.               |
| Sheridan circle                                  |  |                              | do                           |
| Massachusetts avenue NW.                         | Circle                                     | Belmont                      | Macadam                      |
| Massachusetts avenue NE.                         | North Capitol                              | First                        | Asphalt, H. B.               |
| Do   | First                                      | Second                       | Asphalt block                |
| Do   | Second                                     | Fourth                       | Asphalt, H. B.               |
| Do   | do   | do                           | do                           |
| Do   | Sixth                                      | Eighth                       | Asphalt block                |
| Do   | Eighth                                     | Eleventh                     | do                           |
| Michigan avenue                                  | North Capitol                              | Lincoln avenue               | Macadam                      |
| Military road                                    |  |                              | do                           |
| Do   |  |                              | Gravel                       |
| Milwaukee  |  |                              | do                           |
| Minnesota avenue                                 | Harrison                                   | Pennsylvania avenue          | do                           |
| Missouri avenue                                  | Third                                      | Four-and-a-half              | Granite                      |
| Do   | Four-and-a-half                            | Sixth                        | Asphalt block                |
| Morgan   | M and N                                    | New Jersey avenue and Kirby. | Asphalt, H. B.               |
| Do   | Lydecker                                   | Spring road                  | Gravel                       |
| Morris place                                     | F and G, NE                                | Sixth and Seventh            | Asphalt block                |
| Murdock Mill road                                |  |                              | Gravel                       |
| Myrtle   | I and K                                    | North Capitol and First      | Asphalt, B. B.               |

*repairs to asphalt pavements to July 1,*

TABLE D.—*Descriptive list of street pavements and suburban roadways*

| Street.                    | From—                   | To—                     | Kind of pavement or roadway. |
|----------------------------|-------------------------|-------------------------|------------------------------|
| North Capitol              | E                       | Massachusetts avenue    | Coal tar                     |
| Do                         | Massachusetts avenue    | I                       | Asphalt                      |
| Do                         | I                       | K                       | do                           |
| Do                         | K                       | M                       | Asphalt, H. B.               |
| Do                         | M                       | New York avenue         | do                           |
| Do                         | New York avenue         | O                       | do                           |
| Do                         | O                       | Q                       | do                           |
| North Capitol (west side). | P                       | Florida avenue          | do                           |
| Do                         | Florida avenue          | R                       | do                           |
| Do                         | R                       | T                       | Macadam                      |
| Nichols avenue             |                         |                         | Granite                      |
| Do                         |                         |                         | do                           |
| Do                         |                         |                         | Gravel                       |
| North Carolina avenue SE.  | First                   | Second                  | Asphalt block                |
| Do                         | Third                   | Sixth                   | do                           |
| Do                         | Sixth                   | Eighth                  | do                           |
| Do                         | Eighth                  | Eleventh                | do                           |
| O. NW                      | North Capitol           | First                   | Asphalt                      |
| Do                         | First                   | Third                   | Asphalt, H. B.               |
| Do                         | do                      | do                      | do                           |
| Do                         | New Jersey avenue       | Vermont avenue          | Coal tar                     |
| Do                         | Vermont avenue          | Thirteenth              | Asphalt, H. B.               |
| Do                         | Fifteenth               | Sixteenth               | Coal tar                     |
| Do                         | Sixteenth               | Seventeenth             | Asphalt, H. B.               |
| Do                         | Twentieth               | Twenty-first            | Coal tar                     |
| Do                         | Twenty-first            | Twenty-second           | Asphalt, B. B.               |
| Do                         | Twenty-eighth           | Twenty-ninth            | do                           |
| Do                         | Twenty-ninth            | Thirty-second           | Asphalt, H. B.               |
| Do                         | Thirty-second           | Thirty-fifth            | Granite                      |
| Do                         | Thirty-fifth            | College gate            | Coal tar                     |
| Oak                        | Brown                   | Center                  | Gravel                       |
| Do                         | Carroll avenue          | Magnolia                | do                           |
| Ohio avenue                | Twelfth                 | Fourteenth              | Cobble                       |
| Do                         | Fourteenth              | Fifteenth               | do                           |
| Olive                      | Twenty-eighth           | Thirtieth               | Asphalt block                |
| Omaha                      | New Hampshire avenue.   | Fifth                   | Asphalt, B. B.               |
| Do                         | Bunker Hill road        | Thirteenth              | Gravel                       |
| Ontario                    | Superior                | Columbia road           | do                           |
| Oregon avenue              | New Hampshire avenue.   | Eighteenth              | Asphalt                      |
| P. NW                      | North Capitol           | Fourth                  | Asphalt, B. B.               |
| Do                         | New Jersey avenue       | Ninth                   | Asphalt, H. B.               |
| Do                         | Ninth                   | Fifteenth               | do                           |
| Do                         | Fifteenth               | Eighteenth              | do                           |
| Do                         | Eighteenth              | Twentieth               | Coal tar                     |
| Do                         | Twentieth               | Twenty-second           | Granite                      |
| Do                         | Twenty-second           | Rock Creek              | Coal tar                     |
| Do                         | Rock Creek              | 340' west               | do                           |
| Do                         | 340' west of Rock Creek | Thirtieth               | Granite                      |
| Do                         | Thirtieth               | Thirty-second           | do                           |
| Do                         | Thirty-second           | Thirty-fifth            | do                           |
| Do                         | Thirty-fifth            | Thirty-sixth            | Asphalt, H. B.               |
| P. NE                      | North Capitol           | Florida avenue          | do                           |
| P. SW                      | Four-and-a-half         | Water                   | Granite                      |
| Park                       | Fourteenth              | Seventeenth             | Macadam                      |
| Park place                 | B and C, NE             | Eleventh and Twelfth    | Gravel                       |
| Patterson                  | M and N                 | North Capitol and First | do                           |
| Pennsylvania avenue        | First                   | Seventh                 | Asphalt, H. B.               |
| Do                         | Seventh                 | Fifteenth               | do                           |
| Do                         | Intersections           | First to Fifteenth.     | do                           |
| Do                         | Fifteenth               | Seventeenth             | do                           |



repairs to asphalt pavements to July 1, 1902—Continued.

| Square yards. | Price per square yard. | Original cost. | Resurfaced. |                       | Repairs—average annual cost persquare yard. |                   |               | Remarks.   |
|---------------|------------------------|----------------|-------------|-----------------------|---|-------------------|---------------|--|
|               |                        |                | Year.       | Cost per square yard. | Prior to resurfacing.                       | Since resurfacing | Current year. |  |
| 6,000         |                        |                |             |                       |   |                   |               |  |
| 5,642         | \$2.25                 | \$17,341.00    |             |                       | \$0.0007                                    |                   | 0             |  |
| 3,811         | 2.00                   | 9,140.00       |             |                       | .0007                                       |                   | \$0.016       |  |
| 4,454         | 2.28                   | 10,160.00      |             |                       | .045  |                   | .048          |  |
| 6,802         | 4.47                   | 12,421.00      | { 1894      | \$0.119               | .026  | \$0.017           |               |  |
|               |                        |                | 1899        | .517                  |   | .005              | .015          |  |
| 3,249         | 1.84                   | 6,236.00       |             |                       | .004  |                   | .017          |  |
| 6,556         | 3.20                   | 20,982.00      | { 1878      | 1.24                  |   | .04               |               |  |
|               |                        |                | 1894        | .70                   |   | .29               |               |  |
|               |                        |                | 1898        | 1.177                 |   | .036              | .019          |  |
| 517           | 3.60                   | 1,656.00       |             |                       | .032  |                   |               |  |
| 2,081         | 2.00                   | 6,361.00       |             | 0                     | 0   | 0                 | 0             | 4-inch base.   |
| 2,196         | 2.25                   | 9,633.00       |             | 0                     | 0   | 0                 | 0             |  |
| 1,015         | 1.77                   | 2,541.00       |             | 0                     | 0   | 0                 | 0             |  |
| 1,599         |                        | 2,597.00       |             | 0                     | 0   | 0                 | 0             | On asphalt block.  |
| 3,525         | 1.844                  | 6,599.00       |             |                       | .013  |                   | .025          |  |
| 5,689         | 1.844                  | 10,760.00      |             |                       | .016  |                   | .015          |  |
| 11,224        | { 1.05                 | 13,230.00      |             |                       |   |                   |               |  |
|               | 1.50 }                 |                |             |                       |   |                   |               |  |
| 5,970         | .70                    | 4,179.00       |             |                       |   |                   |               |  |
| 2,619         | 1.80                   | 5,770.00       |             | 0                     | 0   | 0                 | 0             |  |
| 2,301         | 1.56                   | 5,897.00       |             | 0                     | 0   | 0                 | 0             |  |
| 13,000        |                        |                |             |                       |   |                   |               |  |
|               |                        | 4,466.02       |             |                       |   |                   |               |  |
| 7,111         |                        |                |             |                       |   |                   |               |  |
| 1,400         |                        |                |             |                       |   |                   |               |  |
| 9,000         |                        |                |             |                       |   |                   |               |  |
| 7,967         | 1.50                   | 11,951.00      |             |                       |   |                   |               |  |
| 6,992         | 1.47                   | 10,525.00      |             |                       | .015  |                   | .007          |  |
| 10,047        | 2.25                   | 22,968.00      |             |                       | .034  |                   | .043          |  |
| 2,538         | 2.26                   | 6,029.00       |             |                       | .011  |                   | .024          |  |
| 4,164         | 2.00                   | 11,036.00      |             |                       | .046  |                   | .114          |  |
| 8,809         | 2.00                   | 22,937.00      |             |                       | .003  |                   | .032          |  |
| 6,805         | 2.00                   | 22,073.00      |             |                       | .0015                                       |                   | .014          |  |
| 5,082         | 2.00                   | 10,163.00      |             | 0                     | 0   | 0                 | 0             | Permit work  |
| 2,862         | 2.15                   | 6,203.00       | { 1888      | .415                  | .018  |                   |               |  |
|               |                        |                | 1892        |                       |   | .057              | .023          |  |
| 2,385         | 2.17                   | 5,175.00       |             |                       |   | .077              | .036          |  |
| 1,177         | 2.10                   | 2,476.00       |             |                       |   |                   |               |  |
| 21,462        | 2.26                   | 49,653.00      |             |                       |   | .029              | .035          |  |
| 3,669         | 2.25                   | 8,398.00       |             |                       |   | .033              | .038          |  |
| 18,127        | 1.994                  | 36,358.00      | 1895        | .415                  | .037  | .067              | .023          |  |
| 8,776         | 1.87                   | 16,881.00      |             |                       |   |                   |               |  |
| 5,500         |                        |                |             |                       |   |                   |               |  |
| 3,300         |                        |                |             |                       |   |                   |               |  |
| 5,604         | 2.00                   | 15,040.00      |             |                       | .006  |                   | .019          |  |
| 9,229         | 2.00                   | 25,723.00      |             |                       | .01   |                   | .049          |  |
| 22,317        | 3.20                   | 71,416.00      |             |                       |   |                   | .000          | This street is so changed by removing of center parking that it is practically a new pavement. |
| 1,895         |                        |                |             |                       |   |                   |               | Removing center parking.   |
| 1,862         | 3.00                   | 5,589.00       | 1895        | 1.61                  | .031  | .056              | 0             |  |
| 3,510         | 3.20                   | 11,231.00      | 1878        | 1.54                  |   | .038              | .054          |  |
| 8,859         |                        |                |             |                       |   |                   |               |  |
| 5,393         | 2.25                   | 16,807.58      |             |                       | .006  | 0                 |               |  |
| 2,790         | 2.25                   | 6,755.00       |             |                       | .034  |                   | .076          |  |
| 2,896         |                        | 7,440.00       |             |                       |   |                   |               |  |

TABLE D.—*Descriptive list of street pavements and suburban roadways,*

| Street.                                  | From—                      | To—                                     | Kind of pavement<br>or roadway. |
|--|----------------------------|---|---------------------------------|
| Pennsylvania avenue ..                   | Seventeenth .....          | Eighteenth .....                        | Coal tar .....                  |
| Pennsylvania avenue<br>(north side).     | Eighteenth .....           | Twenty-first .....                      | Asphalt, H. B. ....             |
| Pennsylvania avenue ..                   | Twenty-first .....         | Twenty-third .....                      | Coal tar .....                  |
| Pennsylvania avenue<br>(south side).     | Eighteenth .....           | do .....                                | do .....                        |
| Pennsylvania avenue<br>(north side).     | Twenty-third .....         | Twenty-sixth .....                      | do .....                        |
| Pennsylvania avenue ..                   | Twenty-sixth .....         | Rock Creek .....                        |                                 |
| Pennsylvania avenue<br>(south side).     | Twenty-third .....         | Twentieth-fourth .....                  | Asphalt, H. B. ....             |
| Pennsylvania avenue ..                   | Twenty-fourth .....        | Twenty-sixth .....                      | do .....                        |
| Do .....                                 | Rock Creek .....           | M .....                                 | Coal tar .....                  |
| Pennsylvania avenue,<br>SE (north side). | Second .....               | Eighth .....                            | Asphalt, B. B. ....             |
| Pennsylvania avenue<br>(south side).     | do .....                   | Fourth .....                            | Asphalt, H. B. ....             |
| Do .....                                 | Fourth .....               | Seventh .....                           | do .....                        |
| Pennsylvania avenue<br>(north side).     | Eighth .....               | Eleventh .....                          | do .....                        |
| Pennsylvania avenue ..                   | do .....                   | do .....                                | Asphalt, B. B. ....             |
| Do .....                                 | Eleventh .....             | Twelfth .....                           | Asphalt, H. B. ....             |
| Pennsylvania avenue,<br>SE.              | Twelfth .....              | Thirteenth .....                        | Asphalt .....                   |
| Pennsylvania avenue ..                   | Thirteenth .....           | Bridge .....                            | Macadam .....                   |
| Do .....                                 | Eastern Branch .....       | Minnesota avenue .....                  | do .....                        |
| Do .....                                 | Minnesota avenue .....     | Branch avenue .....                     | Gravel .....                    |
| Phelps place .....                       | Bancroft .....             | California .....                        | Asphalt, H. B. ....             |
| Philadelphia .....                       | Bunker Hill road .....     | Thirteenth .....                        | Gravel .....                    |
| Pickford place .....                     | F .....                    | G .....                                 | Asphalt block .....             |
| Pierce .....                             | L and M .....              | New Jersey avenue and<br>North Capitol. | Asphalt, B. B. ....             |
| Pierce place .....                       | S and T .....              | Fourteenth and Fifteenth .....          | Coal tar .....                  |
| Do .....                                 | do .....                   | Fifteenth and Sixteenth .....           | Asphalt .....                   |
| Piney Branch road .....                  |                            |   | Gravel .....                    |
| Pleasant Drive .....                     |                            |   | Macadam .....                   |
| Polk .....                               |                            |   | Gravel .....                    |
| Pomeroy .....                            | Brightwood avenue .....    | East .....                              | do .....                        |
| Portner place .....                      | U and V .....              | Fourteenth and Fifteenth .....          | Asphalt, B. B. ....             |
| Potomac .....                            | M .....                    | Prospect .....                          | Asphalt block .....             |
| Do .....                                 | do .....                   | do .....                                | Granite .....                   |
| Do .....                                 | Prospect .....             | O .....                                 | do .....                        |
| Princeton .....                          | Thirteenth .....           | Fourteenth .....                        | Asphalt, H. B. ....             |
| Do .....                                 | Brightwood avenue .....    | Thirteenth .....                        | Asphalt block .....             |
| Providence .....                         | Ninth .....                | Fourteenth .....                        | Gravel .....                    |
| Do .....                                 | East of Fourteenth.        |   | Macadam .....                   |
| Q, NW .....                              | Third .....                | New Jersey avenue .....                 | do .....                        |
| Do .....                                 | do .....                   | Florida avenue .....                    | Asphalt, B. B. ....             |
| Do .....                                 | New Jersey avenue .....    | Fifth .....                             | Asphalt .....                   |
| Do .....                                 | Fifth .....                | Sixth .....                             | Coal tar .....                  |
| Do .....                                 |                            |   | Asphalt, B. B. ....             |
| Do .....                                 | Sixth .....                | Rhode Island avenue .....               | Coal tar .....                  |
| Do .....                                 | Rhode Island avenue .....  | Vermont avenue .....                    | Coal tar .....                  |
| Do .....                                 | Fourteenth .....           | Sixteenth .....                         | Asphalt, H. B. ....             |
| Do .....                                 | Sixteenth .....            | Seventeenth .....                       | Coal tar .....                  |
| Do .....                                 | Seventeenth .....          | Nineteenth .....                        | do .....                        |
| Do .....                                 |                            |   | Asphalt, B. B. ....             |
| Do .....                                 | Nineteenth .....           | Twentieth .....                         | Coal tar .....                  |
| Do .....                                 | Twentieth .....            | Twenty-first .....                      | Coal tar .....                  |
| Do .....                                 | Massachusetts avenue ..... | Twenty-second .....                     | do .....                        |
| Do .....                                 | do .....                   | Twenty-first .....                      | do .....                        |
| Do .....                                 | Twenty-eighth .....        | Thirtieth .....                         | Asphalt, B. B. ....             |
| Do .....                                 | Thirtieth .....            | Valley .....                            | Coal tar .....                  |
| Do .....                                 | Valley .....               | Thirty-second .....                     | do .....                        |
| Do .....                                 | Thirty-second .....        | Thirty-fifth .....                      | Asphalt, B. B. ....             |
| Q, NE .....                              | Lincoln avenue .....       | Eckington place .....                   | Asphalt, H. B. ....             |
| Quarry road .....                        | Columbia road .....        | Zoo Park .....                          | Macadam .....                   |

repairs to asphalt pavements to July 1, 1901—Continued.

| Square yards. | Price per square yard. | Original cost. | Resurfaced.              |                       | Repairs—average annual cost per square yard. |                    |               | Remarks.            |
|---------------|------------------------|----------------|--------------------------|-----------------------|--|--------------------|---------------|---------------------|
|               |                        |                | Year.                    | Cost per square yard. | Prior to resurfacing.                        | Since resurfacing. | Current year. |                     |
| 3,856         | \$1.98                 | \$8,461.00     |                          |                       | \$0.081                                      |                    | \$0.063       | 4-inch base.        |
| 7,457         | 2.00                   | 18,826.00      | 1902                     |                       | .028   |                    |               |                     |
| 2,887         | 2.00                   | 6,328.00       | 1902                     |                       | .08  |                    | .024          |                     |
| 6,207         | 2.25                   | 19,415.00      | 1899                     | \$0.408               | 0  | 0                  | .014          |                     |
| 2,309         | 2.25                   | 5,491.00       |                          | 0                     | 0  | 0                  | 0             |                     |
| 1,665         | 2.10                   | 4,307.00       |                          |                       |  |                    | .0034         |                     |
| 2,535         | 1.57                   | 4,854.00       |                          | 0                     | 0  | 0                  | 0             |                     |
| 797           | 1.80                   | 1,621.00       |                          | 0                     | 0  | 0                  | 0             |                     |
| 3,222         | 1.76                   | 6,773.00       |                          | 0                     | 0  | 0                  | 0             |                     |
| 3,864         |                        | 6,368.00       |                          |                       |  |                    |               |                     |
| 2,990         |                        |                |                          |                       |  |                    |               | Complete.           |
| 3,823         |                        |                |                          |                       |  |                    |               |                     |
| 25,000        |                        |                |                          |                       |  |                    |               |                     |
| 3,111         | 1.77                   | 7,888.00       |                          |                       |  |                    |               |                     |
| 5,038         | 2.00                   | 12,451.00      |                          |                       |  |                    |               |                     |
| 6,378         | 2.00                   | 16,715.00      |                          |                       |  |                    |               |                     |
| 6,480         | 2.00                   | 18,186.00      |                          |                       |  |                    |               |                     |
| 8,183         | \$1.73                 | \$7,793.50     |                          |                       |  |                    |               |                     |
| 3,028         | 1.76                   | 6,184.00       |                          | 0                     | 0  | 0                  | 0             |                     |
| 925           | 1.78                   |                |                          | 0                     | 0  | 0                  | 0             |                     |
| 13,861        | 3.20                   | 43,714.00      | { 1881<br>1902 }         | \$0.566               | \$0.018                                      | \$0.05             | \$0.042       | Resurfaced 9 to 10. |
| 481           | 2.00                   | 1,080.00       |                          |                       | .063   |                    | .079          |                     |
| 1,663         | 3.00                   | 4,988.00       |                          |                       | .007   |                    | .03           |                     |
| 1,697         | 2.29                   | 3,886.00       |                          |                       | .052   |                    | .072          |                     |
| 2,011         | 1.97                   | 5,131.00       |                          |                       | .007   |                    | .0057         |                     |
| 2,398         | 2.00                   | 1,966.00       |                          |                       | 0  |                    | .0025         |                     |
| 860           | 2.00                   | 2,328.00       |                          | 0                     | 0  | 0                  | 0             |                     |
| 4,829         | 2.25                   | 11,426.00      |                          |                       | .044   |                    | .084          |                     |
| 4,435         | 1.98                   | 8,744.00       |                          |                       |  |                    |               |                     |
| 2,398         | 2.00                   | 8,279.00       |                          |                       | .018   |                    | .084          |                     |
| 1,000         |                        |                |                          |                       |  |                    |               |                     |
| 1,525         |                        |                |                          |                       |  |                    |               |                     |
| 6,527         | .70                    | 4,570.00       |                          |                       |  |                    |               |                     |
| 2,642         | .70                    | 1,850.00       |                          |                       |  |                    |               |                     |
| 1,674         | 1.77                   | 3,834.00       |                          |                       |  |                    |               |                     |
| 3,536         | 2.00                   | 7,072.00       |                          | 0                     | 0  | 0                  | 0             |                     |
| 3,000         |                        |                |                          |                       |  |                    |               |                     |
| 4,875         |                        |                |                          |                       |  |                    |               |                     |
| 2,129         | 1.65                   | 5,297.80       |                          |                       |  |                    |               |                     |
| 7,938         | 2.00                   | 23,985.00      |                          | 0                     | 0  | 0                  | 0             |                     |
| 5,168         | 2.25                   | 12,397.00      | 1902                     |                       | .081   |                    | 0             |                     |
| 8,156         | 2.29                   | 19,008.00      |                          |                       | .057   |                    | .084          |                     |
| 8,076         | 2.25                   | 18,221.00      | 1901                     |                       | .043   |                    | .025          |                     |
| 1,569         | 3.20                   | 5,021.00       | { 1878<br>1896 }         | 1.01<br>.656          |  | .036<br>.047       | 0             |                     |
| 3,481         | 2.15                   | 7,397.00       |                          |                       |  |                    |               |                     |
| 1,078         | 3.20                   | 3,452.00       | { 1881<br>1897<br>1887 } | 1.30<br>1.82<br>1.314 | .012   | .108<br>.036       | .01<br>.018   |                     |
| 1,590         | 3.20                   | 5,088.00       |                          |                       |  |                    |               |                     |
| 6,869         | 2.15                   | 14,498.00      |                          |                       |  |                    |               |                     |
| 4,011         | 1.95                   | 7,969.00       |                          |                       |  |                    |               |                     |
| 3,624         | .85                    | 4,655.00       |                          |                       |  |                    |               |                     |
| 938           | 1.78                   | 2,721.00       |                          | 0                     | 0  | 0                  | 0             | Laid on old base.   |
| 2,539         | 1.63                   | 7,224.00       |                          | 0                     | 0  | 0                  | 0             |                     |
| 2,000         |                        |                |                          |                       |  |                    |               |                     |
| 6,000         |                        |                |                          |                       |  |                    |               |                     |
| 1,700         |                        |                |                          |                       |  |                    |               |                     |
| 2,700         |                        |                |                          |                       |  |                    |               |                     |
| 28,486        | 1.184                  |                | 1900                     | .009                  |  | .013               | .015          |                     |
| 33,974        | 1.184                  |                |                          |                       |  |                    |               |                     |
| 16,061        |                        |                |                          |                       |  |                    |               |                     |
| 11,497        |                        |                | 1900                     | .68                   | 0  | 0                  | 0             |                     |



repairs to asphalt pavements to July 1.

TABLE D.—*Descriptive list of street pavements and suburban roadways.*

| Street.             | From—                       | To—                       | Kind of pavement or roadway. |
|---------------------|-----------------------------|---------------------------|------------------------------|
| Sheridan            |                             |                           | Macadam                      |
| Sherman             |                             |                           | do                           |
| Spruce and Bohrer   | Florida avenue              | Larch                     | Asphalt, H. B.               |
| Spruce              | Larch                       | Harewood                  | do                           |
| Spring              | Morris road                 | Arthur                    | Gravel                       |
| Steuben             | Brightwood avenue           | Sherman                   | Macadam                      |
| Stoughton           | Fourteenth                  | Alley west of Fourteenth  | Asphalt block                |
| Do                  | Alley                       | Westward                  | Granite                      |
| Do                  |                             | West to Fifteenth.        | Asphalt, B. B.               |
| Sunderland place    | N and O                     | Nineteenth and Twentieth  | Asphalt block                |
| Superior            | Champlain                   | Sixteenth                 | Gravel                       |
| South Capitol       | B                           | E                         | do                           |
| Do                  | E                           | H                         | Granite                      |
| Do                  | H                           | K                         | do                           |
| Do                  | K                           | M                         | Asphalt                      |
| Do                  | M                           | O                         | do                           |
| Do                  | O                           | P                         | Cobble                       |
| Do                  | P                           | River                     | Asphalt block                |
| T. NW               | Florida avenue              | Seventh                   | Asphalt, H. B.               |
| Do                  | Seventh                     | Ninth                     | do                           |
| Do                  | Ninth                       | Tenth                     | do                           |
| Do                  | Tenth                       | Fourteenth                | do                           |
| Do                  | Fourteenth                  | New Hampshire avenue      | do                           |
| Do                  | New Hampshire avenue.       | Florida avenue            | Macadam                      |
| Do                  | Second                      | Eckington line            | Asphalt, B. B.               |
| Tenleytown road     |                             |                           | Macadam                      |
| Tennessee avenue    | East Capitol                | B.                        | Asphalt, H. B.               |
| Do                  | B                           | D                         | Gravel                       |
| Thomas              | Sixth                       | Eckington line            | Asphalt, B. B.               |
| Trenton             | Brightwood avenue           | Eighth                    | Macadam                      |
| Trinidad            | King's subdivision.         |                           | do                           |
| Tunlaw road         |                             |                           | Gravel                       |
| U. NW               | Le Droit (Second) eastward. |                           | Asphalt block                |
| Do                  | Ninth                       | Tenth                     | Asphalt, H. B.               |
| Do                  | Tenth                       | Fourteenth                | do                           |
| Do                  | Fourteenth                  | Sixteenth                 | do                           |
| Do                  | Sixteenth                   | Eighteenth                | do                           |
| Do                  | Twenty-eighth               | Thirty-first              | Macadam                      |
| Do                  | Thirty-first                | Thirty-second             | Asphalt, H. B.               |
| Do                  | Thirty-second               | Thirty-fifth              | do                           |
| Union               | M and O                     | Four-and-a-half and Sixth | Cobble                       |
| University place    | Welling                     | Huntington                | Asphalt, H. B.               |
| V. NW               | Thirteenth                  | Fourteenth                | do                           |
| Do                  | Fourteenth                  | Fifteenth                 | do                           |
| Valley              | P                           | U                         | Asphalt block                |
| Van                 | Third                       | Four-and-a-half           | do                           |
| Vermilion           | Piney Branch road           | Baltimore and Ohio R. R.  | Gravel                       |
| Vernon              | Eighteenth                  | Nineteenth                | Asphalt, B. B.               |
| Virginia avenue, NW | Intersection of B.          |                           | Asphalt, H. B.               |
| Do                  | E                           | G                         | do                           |
| Do                  | G                           | Twenty-seventh            | Gravel                       |
| Virginia avenue, SE | Second                      | Third                     | Macadam                      |
| Do                  | Third                       | Eleventh                  | Gravel                       |
| Virginia avenue, SW | South Capitol               | Delaware avenue           | Asphalt, H. B.               |
| Do                  | Second                      | Four-and-a-half           | Gravel                       |
| Do                  | Four-and-a-half             | Seventh                   | do                           |
| Do                  | Ninth                       | Twelfth                   | Granite                      |
| Vermont avenue      | H                           | I                         | do                           |
| Do                  | K                           | M                         | Coal tar                     |
| Do                  |                             |                           | do                           |

*repairs to asphalt pavements to July 1,*

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TABLE D.—*Descriptive list of street pavements and suburban roads*

| Street.                  | From—                       | To—                            | Kind of pavement or roadway. |
|--------------------------|-----------------------------|--------------------------------|------------------------------|
| Sheridan.....            |                             |                                | Macadam.....                 |
| Sherman.....             |                             |                                | do.....                      |
| Spruce and Bohrer.....   | Florida avenue              | Larch.....                     | Asphalt, H. B.....           |
| Spruce.....              | Larch.....                  | Harewood.....                  | do.....                      |
| Spring.....              | Morris road.....            | Arthur.....                    | Gravel.....                  |
| Steuben.....             | Brightwood avenue.....      | Sherman.....                   | Macadam.....                 |
| Stoughton.....           | Fourteenth.....             | Alley west of Fourteenth.....  | Asphalt block.....           |
| Do.....                  | Alley.....                  | Westward.....                  | Granite.....                 |
| Do.....                  |                             | West to Fifteenth.....         | Asphalt, B. B.....           |
| Sunderland place.....    | N and O.....                | Nineteenth and Twentieth.....  | Asphalt block.....           |
| Superior.....            | Champlain.....              | Sixteenth.....                 | Gravel.....                  |
| South Capitol.....       | B.....                      | E.....                         | do.....                      |
| Do.....                  | E.....                      | H.....                         | Granite.....                 |
| Do.....                  | H.....                      | K.....                         | do.....                      |
| Do.....                  | K.....                      | M.....                         | Asphalt.....                 |
| Do.....                  | M.....                      | O.....                         | do.....                      |
| Do.....                  | O.....                      | P.....                         | Cobble.....                  |
| Do.....                  | P.....                      | River.....                     | Asphalt block.....           |
| T, NW.....               | Florida avenue.....         | Seventh.....                   | Asphalt, H. B.....           |
| Do.....                  | Seventh.....                | Ninth.....                     | do.....                      |
| Do.....                  | Ninth.....                  | Tenth.....                     | do.....                      |
| Do.....                  | Tenth.....                  | Fourteenth.....                | do.....                      |
| Do.....                  | Fourteenth.....             | New Hampshire avenue.....      | do.....                      |
| Do.....                  | New Hampshire avenue.....   | Florida avenue.....            | Macadam.....                 |
| Do.....                  | Second.....                 | Eckington line.....            | Asphalt, B. B.....           |
| Tenleytown road.....     |                             |                                | Macadam.....                 |
| Tennessee avenue.....    | East Capitol.....           | B.....                         | Asphalt, H. B.....           |
| Do.....                  | B.....                      | D.....                         | Gravel.....                  |
| Thomas.....              | Sixth.....                  | Eckington line.....            | Asphalt, B. B.....           |
| Trenton.....             | Brightwood avenue.....      | Eighth.....                    | Macadam.....                 |
| Trinidad.....            | King's subdivision.         |                                | do.....                      |
| Tunlaw road.....         |                             |                                | Gravel.....                  |
| U, NW.....               | Le Droit (Second) eastward. |                                | Asphalt block.....           |
| Do.....                  | Ninth.....                  | Tenth.....                     | Asphalt, H. B.....           |
| Do.....                  | Tenth.....                  | Fourteenth.....                | do.....                      |
| Do.....                  | Fourteenth.....             | Sixteenth.....                 | do.....                      |
| Do.....                  | Sixteenth.....              | Eighteenth.....                | do.....                      |
| Do.....                  | Twenty-eighth.....          | Thirty-first.....              | Macadam.....                 |
| Do.....                  | Thirty-first.....           | Thirty-second.....             | Asphalt, H. B.....           |
| Do.....                  | Thirty-second.....          | Thirty-fifth.....              | do.....                      |
| Union.....               | M and O.....                | Four-and-a-half and Sixth..... | Cobble.....                  |
| University place.....    | Welling.....                | Huntington.....                | Asphalt, H. B.....           |
| V, NW.....               | Thirteenth.....             | Fourteenth.....                | do.....                      |
| Do.....                  | Fourteenth.....             | Fifteenth.....                 | do.....                      |
| Valley.....              | P.....                      | U.....                         | Asphalt block.....           |
| Van.....                 | Third.....                  | Four-and-a-half.....           | do.....                      |
| Vermilion.....           | Piney Branch road.....      | Baltimore and Ohio R. R.....   | Gravel.....                  |
| Vernon.....              | Eighteenth.....             | Nineteenth.....                | Asphalt, B. B.....           |
| Virginia avenue, NW..... | Intersection of B.          |                                | Asphalt, H. B.....           |
| Do.....                  | E.....                      | G.....                         | do.....                      |
| Do.....                  | G.....                      | Twenty-seventh.....            | Gravel.....                  |
| Virginia avenue, SE..... | Second.....                 | Third.....                     | Macadam.....                 |
| Do.....                  | Third.....                  | Eleventh.....                  | Gravel.....                  |
| Virginia avenue, SW..... | South Capitol.....          | Delaware avenue.....           | Asphalt, H. B.....           |
| Do.....                  | Second.....                 | Four-and-a-half.....           | Gravel.....                  |
| Do.....                  | Four-and-a-half.....        | Seventh.....                   | do.....                      |
| Do.....                  | Ninth.....                  | Twelfth.....                   | Granite.....                 |
| Vermont avenue.....      | H.....                      | I.....                         | do.....                      |
| Do.....                  | K.....                      | M.....                         | Coal tar.....                |
| Do.....                  |                             |                                | do.....                      |



epairs to asphalt pavements to July 1,

|        |      |           |  |   |       |   |      |
|--------|------|-----------|--|---|-------|---|------|
| 1,967  | 1.85 | 3,736.00  |  |   | .004  |   | .002 |
| 5,616  | 2.00 | 12,905.00 |  |   | .0005 |   | .001 |
| 4,500  |      |           |  |   |       |   |      |
| 2,206  | 2.25 | 7,854.00  |  | 0 | 0     | 0 | 0    |
| 594    | 2.25 | 1,437.00  |  | 0 | 0     | 0 | 0    |
| 2,162  | 1.81 | 3,905.00  |  |   |       |   |      |
| 1,200  | 2.00 | 2,531.00  |  |   |       |   |      |
| 2,001  | 1.06 | 3,900.00  |  |   | .005  |   |      |
| 1,052  | 1.77 | 4,551.00  |  |   |       |   |      |
| 10,200 |      |           |  |   |       |   |      |
| 6,721  | 3.50 | 23,524.00 |  |   |       |   |      |
| 11,198 | 3.50 | 39,194.00 |  |   |       |   |      |

grounds.

TABLE D.—*Descriptive list of street pavements and suburban roadways.*

| Street.            | From—                        | To—                          | Kind of pavement or roadway. |
|--------------------|------------------------------|------------------------------|------------------------------|
| Vermont avenue     | M                            | P                            | Coal tar                     |
| Do.                | P                            | R                            | Asphalt, H. B.               |
| Do.                | R                            | T                            | Macadam                      |
| Do.                | Intersection of N.           |                              | Asphalt, B. B.               |
| Do.                | T                            | Florida avenue               | Gravel                       |
| W. NW              | Twelfth                      | Thirteenth                   | Asphalt, H. B.               |
| Do.                | Thirteenth                   | Fifteenth                    | do                           |
| Wallach            | T and U                      | Thirteenth and Fourteenth.   | Asphalt block.               |
| Ward place         | M and N                      | New Haven and Twenty-second. | Asphalt, B. B.               |
| Washington         | G and H                      | Fourth and Fifth             | do                           |
| Do.                | Nichols avenue               | Taylor                       | Gravel                       |
| Water              | Seventh                      | Twelfth                      | Granite                      |
| Do.                | N                            | O                            | do                           |
| Do.                | M                            | Sixth                        | do                           |
| Water (south side) | P, westward.                 |                              | Vitrified block.             |
| Water              | Twelfth                      | Thirteen-and-a-half          | Granite                      |
| Welling            | Fourteenth                   | University place             | Asphalt, H. B.               |
| Whitney avenue     | do                           | Brightwood avenue            | Macadam                      |
| Do.                | Brightwood avenue, eastward. |                              | do                           |
| Willard            | T and U                      | Seventeenth and Eighteenth.  | Gravel                       |
| Westminster        | S and T                      | Ninth and Tenth              | Asphalt, B. B.               |
| Wyoming            | Eighteenth                   | Columbia road                | do                           |
| Do.                | Columbia road, westward.     |                              | do                           |
| One-half, SE       | I                            | N                            | Macadam                      |
| One-half, SW       | G                            | do                           | do                           |
| First, NW          | Maryland avenue              | Pennsylvania avenue          | Asphalt, H. B.               |
| Do.                | Pennsylvania avenue          | F                            | Granite                      |
| Do.                | B                            | C                            | Asphalt block                |
| Do.                | do                           | do                           | Vitrified block              |
| Do.                | Massachusetts avenue         | H                            | do                           |
| Do.                | H                            | Defrees                      | Asphalt                      |
| Do.                | Defrees                      | I                            | Granite                      |
| Do.                | I                            | K                            | Asphalt, B. B.               |
| Do.                | K                            | Pierce                       | Asphalt, H. B.               |
| Do.                | Pierce                       | New York avenue              | do                           |
| Do.                | New York avenue              | O                            | do                           |
| Do.                | O                            | P                            | do                           |
| Do.                | P                            | Q                            | do                           |
| Do.                | Q                            | Florida avenue               | do                           |
| Do.                | Florida avenue               | S                            | Asphalt                      |
| Do.                | S                            | W                            | do                           |
| Do.                | W                            | Michigan avenue              | do                           |
| First, E           | B, North                     | B, South                     | do                           |
| First, NE          | B                            | C                            | Asphalt, H. B.               |
| Do.                | C                            | F                            | Asphalt, B. B.               |
| Do.                | F                            | L                            | Gravel                       |
| Do.                | Q                            | R                            | Asphalt, H. B.               |
| Do.                | R                            | Alley                        | do                           |
| First, SE          | B                            | C                            | Granite                      |
| Do.                | C                            | D                            | Asphalt block                |
| Do.                | D                            | E                            | Asphalt, H. B.               |
| Do.                | E                            | G                            | Asphalt block                |
| Do.                | I                            | River                        | Gravel                       |
| First, SW          | Maryland avenue              | Virginia avenue              | Trap                         |
| Do.                | Virginia avenue              | M                            | do                           |

repairs to asphalt pavements to July 1, 1902—Continued.

| Square yards. | Price per square yard. | Original cost. | Resurfaced.      |                       | Repairs—average annual cost per square yard. |                    |               | Remarks.   |
|---------------|------------------------|----------------|------------------|-----------------------|--|--------------------|---------------|--|
|               |                        |                | Year.            | Cost per square yard. | Prior to resurfacing.                        | Since resurfacing. | Current year. |  |
| 6,150         | \$3.20                 | \$19,679.00    | 1893             | \$1.34                | \$0.026                                      | \$0.014            | \$0.002       |  |
| 6,103         | 2.00                   | 16,374.00      |                  |                       | .039   |                    | .004          |  |
| 4,854         | .40                    | 5,951.00       |                  |                       |  |                    |               |  |
| 338           | 1.78                   | 602.00         |                  | 0                     | 0  | 0                  | 0             |  |
| 5,500         |                        |                |                  |                       |  |                    |               |  |
| 1,358         | 1.63                   | 3,381.75       |                  | 0                     | 0  | 0                  | 0             |  |
| 4,868         | 1.80                   | 11,046.00      |                  | 0                     | 0  | 0                  | 0             |  |
| 2,075         |                        |                |                  |                       |  |                    |               |  |
| 1,505         | 2.00                   | 4,148.00       |                  | 0                     | 0  | 0                  | 0             |  |
| 2,128         | 2.00                   | 8,159.00       |                  |                       |  |                    | .152          |  |
| 7,000         |                        |                |                  | 0                     | .014   | 0                  | 0             |  |
| 16,858        |                        | 52,280.00      |                  |                       |  |                    |               |  |
| 3,359         |                        | 11,758.00      |                  |                       |  |                    |               |  |
| 3,528         |                        | 16,846.00      |                  |                       |  |                    |               |  |
| 2,943         |                        | 4,095.00       |                  |                       |  |                    |               |  |
| 3,110         |                        | 4,826.00       |                  |                       |  |                    |               |  |
| 1,781         | 2.25                   | 4,483.00       |                  | 0                     | 0  | 0                  | 0             |  |
| 7,000         |                        |                |                  |                       |  |                    |               |  |
| 5,000         |                        |                |                  |                       |  |                    |               |  |
| 2,000         |                        |                |                  |                       |  |                    |               |  |
| 1,749         | 2.00                   |                |                  | 0                     | 0  | 0                  | 0             | { Resurfacing at Garfield Monument.  |
| 2,568         |                        |                |                  | 0                     | 0  | 0                  | .069          |  |
| 3,900         |                        |                |                  |                       |  |                    |               |  |
| 6,000         |                        |                |                  |                       |  |                    |               |  |
| 6,516         |                        |                |                  |                       |  |                    |               |  |
| 4,540         | 2.24                   | 10,460.00      | { 1896<br>1902 } | 1.40                  | .048   | .17                | .042          |  |
| 7,280         | 1.87                   | 15,690.00      |                  |                       |  |                    |               |  |
| 475           |                        |                |                  |                       |  |                    |               |  |
| 577           |                        |                |                  |                       |  |                    |               |  |
| 1,427         | 2.39                   | 3,519.00       |                  |                       |  |                    |               |  |
| 700           | 1.98                   | 1,386.00       |                  |                       | .023   |                    | .0318         | Macadam base.  |
| 535           | 2.41                   | 1,310.00       |                  |                       |  |                    |               |  |
| 1,191         | 2.00                   | 3,028.00       |                  |                       | .009   |                    | 0             |  |
| 3,051         | 1.68                   | 7,457.00       |                  | 0                     | 0  | 0                  | 0             |  |
| 1,731         | 1.76                   | 4,860.00       |                  | 0                     | 0  | 0                  | 0             |  |
| 2,728         | 1.794                  | 6,687.00       |                  | 0                     | 0  | 0                  | 0             |  |
| 1,160         | 1.63                   | 2,172.00       |                  | 0                     | 0  | 0                  | 0             |  |
| 1,748         | 1.72                   | 4,396.47       |                  |                       |  |                    |               |  |
| 1,077         | 1.795                  | 2,451.00       |                  |                       |  |                    |               |  |
| 1,898         | 1.20                   | 3,411.00       |                  |                       |  |                    | .0057         |  |
| 7,385         | 1.94                   | 15,577.00      |                  | 0                     | 0  | 0                  | 0             | Four-inch base.<br>Laid by property owners.<br>Originally laid with coal tar in 1873. Relaid with new pavement and asphalt surface in 1897. Includes entrances to Capitol grounds. |
| 10,432        |                        |                |                  |                       |  |                    | .013          |  |
| 8,822         |                        |                | 1897             |                       |  |                    |               |  |
| 1,987         | 1.85                   | 3,736.00       |                  |                       | .004   |                    | .062          |  |
| 5,616         | 2.00                   | 13,985.00      |                  |                       | .0005  |                    | .001          |  |
| 4,500         |                        |                |                  |                       |  |                    |               |  |
| 2,206         | 2.25                   | 7,358.00       |                  | 0                     | 0  | 0                  | 0             |  |
| 538           | 2.25                   | 1,437.00       |                  | 0                     | 0  | 0                  | 0             |  |
| 2,152         | 1.81                   | 3,895.00       |                  |                       |  |                    |               |  |
| 1,260         | 2.00                   | 2,631.00       |                  |                       |  |                    |               |  |
| 2,001         | 1.68                   | 3,960.00       |                  |                       | .005   |                    |               |  |
| 1,652         | 1.77                   | 4,351.00       |                  |                       |  |                    |               |  |
| 10,200        |                        |                |                  |                       |  |                    |               |  |
| 6,721         | 3.50                   | 23,524.00      |                  |                       |  |                    |               |  |
| 11,198        | 3.50                   | 39,194.00      |                  |                       |  |                    |               |  |

TABLE D.—*Descriptive list of street pavements and suburban roadways.*

| Street.                       | From—               | To—                 | Kind of pavement or roadway. |
|-------------------------------|---------------------|---------------------|------------------------------|
| First, SW                     | M                   | N                   | Rubble                       |
| Do                            | N                   | River               | Gravel                       |
| Second, NW                    | Pennsylvania avenue | Indiana avenue      | Granite                      |
| Do                            | Indiana avenue      | I                   | Asphalt, H. B.               |
| Second (Le Droit avenue).     | Florida avenue      | W                   | do                           |
| Second, NE. and SE            | Pennsylvania avenue | Maryland avenue     | do                           |
| Second, NE                    | Maryland avenue     | C                   | Asphalt block                |
| Do                            | C                   | F                   | do                           |
| Do                            | F                   | H                   | Asphalt, B. B.               |
| Do                            | K                   | L                   | Gravel                       |
| Do                            | R                   | T                   | Asphalt, B. B.               |
| Second, SE                    | Pennsylvania avenue | D                   | Asphalt, H. B.               |
| Do                            | D                   | G                   | Macadam                      |
| Do                            | Virginia avenue     | I                   | do                           |
| Do                            | K                   | L                   | do                           |
| Second, SW                    | Maryland avenue     | C                   | Asphalt, H. B.               |
| Do                            | C                   | Virginia avenue     | Asphalt, B. B.               |
| Do                            | Virginia avenue     | F                   | Asphalt, H. B.               |
| Do                            | F                   | Delaware avenue     | Macadam                      |
| Third, NW                     | Pennsylvania avenue | D                   | Granite                      |
| Do                            | Intersection of D.  |                     | Asphalt, H. B.               |
| Do                            | D                   | L                   | Asphalt, B. B.               |
| Do                            | L                   | New York avenue     | Asphalt, H. B.               |
| Do                            | New Jersey avenue   | P                   | do                           |
| Do                            | P                   | Q                   | do                           |
| Do                            | Q                   | R                   | do                           |
| Do                            | R                   | Florida avenue      | do                           |
| Third, NW (Harewood avenue).  | Florida avenue      | Elm                 | Gravel                       |
| Third, NE                     | East Capitol        | Maryland avenue     | Asphalt, H. B.               |
| Do                            | Maryland avenue     | C                   | Asphalt block                |
| Do                            | C                   | F                   | Asphalt, B. B.               |
| Do                            | F                   | H                   | Asphalt, H. B.               |
| Do                            | Quincy              | R                   | do                           |
| Do                            | R                   | T                   | Asphalt                      |
| Third, SE                     | East Capitol        | Pennsylvania avenue | Asphalt, H. B.               |
| Do                            | Pennsylvania avenue | C                   | Asphalt block                |
| Do                            | C                   | D                   | Granite                      |
| Do                            | D                   | Virginia avenue     | Belgian                      |
| Do                            | M                   | N                   | Rubble                       |
| Do                            | Virginia avenue     | K                   | Granite                      |
| Do                            | K                   | M                   | Macadam                      |
| Third, SW                     | Pennsylvania avenue | B, South            | Granite                      |
| Do                            | B                   | Virginia avenue     | Asphalt, H. B.               |
| Do                            | Virginia avenue     | F                   | do                           |
| Do                            | F                   | H                   | do                           |
| Do                            | H                   | I                   | do                           |
| Do                            | I                   | K                   | do                           |
| Do                            | K                   | N                   | do                           |
| Fourth (John Marshall place). | Pennsylvania avenue | D                   | Asphalt block                |
| Fourth, NW                    | do                  | Missouri avenue     | Asphalt, H. B.               |
| Do                            | Indiana avenue      | New York avenue     | Coal tar                     |
| Do                            | New York avenue     | New Jersey avenue   | Granite                      |
| Do                            | New Jersey avenue   | Florida avenue      | Asphalt, H. B.               |
| Fourth (Linden)               | Florida avenue      | Maple               | do                           |
| Fourth, NW                    | Maple               | College             | Macadam                      |

repairs to asphalt pavements to July 1, 1902—Continued.

| Square yards. | Price per square yard. | Original cost. | Resurfaced. |                       | Repairs—average annual cost per square yard. |                    |               | Remarks.                |
|---------------|------------------------|----------------|-------------|-----------------------|--|--------------------|---------------|-------------------------|
|               |                        |                | Year.       | Cost per square yard. | Prior to re-surfacing.                       | Since resurfacing. | Current year. |                         |
| 2,315         | \$1.05                 | \$2,430.00     |             |                       |  |                    |               | Permit work.            |
| 13,750        |                        |                |             |                       |  |                    |               |                         |
| 3,693         | 1.87                   | 7,137.00       |             |                       |  |                    |               |                         |
| 10,452        | 2.08½                  | 22,534.00      |             |                       | \$0.044                                      |                    | \$0.046       |                         |
| 6,051         | 2.25                   | 18,454.00      |             | 0                     | 0  | 0                  | 0             |                         |
| 4,751         | 2.09                   | 10,589.00      | 1898        | \$1.45                | .028   | \$0.018            | .0046         | Do.                     |
| 1,846         | 1.98½                  | 4,787.00       |             |                       |  |                    |               |                         |
| 4,323         | 2.00                   | 10,788.00      |             |                       |  |                    |               |                         |
| 3,885         | 2.00                   | 7,565.00       |             |                       | .004   |                    | .018          |                         |
| 1,068         |                        |                |             |                       |  |                    |               |                         |
| 4,214         | 2.00                   | 8,702.00       |             | 0                     | 0  | 0                  | 0             | Do.                     |
| 4,906         | 2.27                   | 11,872.00      |             |                       | .035   |                    | .038          |                         |
| 2,099         | .93                    | 4,835.00       |             |                       |  |                    |               |                         |
| 1,206         | .95                    | 2,115.00       |             |                       |  |                    |               |                         |
| 1,219         |                        |                |             |                       |  |                    |               |                         |
| 2,532         | 2.25                   | 10,013.00      |             | 0                     | 0  | 0                  | .011          |                         |
| 3,179         | 2.00                   | 12,235.00      |             |                       | .023   |                    | 0             |                         |
| 511           | 2.25                   | 2,227.00       |             | 0                     | 0  | 0                  | 0             |                         |
| 4,627         | .57                    | 5,171.00       |             |                       |  |                    |               |                         |
| 4,231         | 1.72                   | 7,518.00       |             |                       |  |                    |               |                         |
| 496           |                        | 800.00         |             | 0                     | 0  | 0                  | 0             |                         |
| 16,359        | 3.00                   | 52,631.00      | { 1883      | 1.42                  | .014   |                    | .032          |                         |
| 2,685         | 1.78                   | 4,779.00       | { 1884      | .08                   | .038   | .03                | .08           |                         |
| 4,177         | 2.25                   | 12,358.00      |             | 0                     | 0  | 0                  | 0             |                         |
| 2,077         | 1.80                   | 5,497.00       |             | 0                     | 0  | 0                  | 0             |                         |
| 529           | 1.80                   | 1,796.00       |             | 0                     | 0  | 0                  | 0             |                         |
| 2,205         | 1.795                  | 5,188          |             | 0                     | 0  | 0                  | 0             |                         |
| 4,800         |                        |                |             |                       |  |                    |               |                         |
| 3,121         | 2.25                   | 7,437          |             |                       | .045   |                    | .024          |                         |
| 1,080         | 1.99                   | 2,977          |             | 0                     | 0  | 0                  | 0             |                         |
| 4,314         | 2.00                   | 10,850         |             |                       | .0018  |                    | .058          | Do.<br>Private expense. |
| 3,834         | 2.25                   | 9,164          |             | 0                     | 0  | 0                  | 0             |                         |
| 1,133         | 2.25                   | 3,377          |             | 0                     | 0  | 0                  | 0             |                         |
| 3,000         |                        |                |             | 0                     | 0  | 0                  | 0             |                         |
| 3,521         | 2.09                   | 7,791          |             |                       | .04  |                    | .024          |                         |
| 987           | 1.99                   | 2,562          |             |                       |  |                    |               |                         |
| 2,572         | 2.20                   | 5,660          |             |                       |  |                    |               |                         |
| 5,060         | 3.50                   |                |             |                       |  |                    |               |                         |
| 2,017         | 1.08                   | 17,607         |             |                       |  |                    |               |                         |
| 2,467         |                        | 9,400          |             |                       |  |                    |               |                         |
| 2,000         |                        |                |             |                       |  |                    |               |                         |
| 5,941         | 1.82                   | 11,008         |             |                       |  |                    |               |                         |
| 5,890         | 2.25                   | 17,548         | 1901        | 1.936                 | .058   | 0                  | 0             |                         |
| 2,068         | 2.25                   | 6,968          | 1902        |                       | .032   |                    | .04           |                         |
| 2,947         | 1.68                   | 5,460          |             | 0                     | 0  | 0                  | 0             |                         |
| 1,342         | 1.63                   | 2,609          |             | 0                     | 0  | 0                  | 0             |                         |
| 1,472         | 1.56                   | 3,087          |             | 0                     | 0  | 0                  | 0             |                         |
| 6,325         | 1.76                   | 13,598         |             | 0                     | 0  | 0                  | 0             |                         |
| 4,549         | 2.00                   | 14,669         |             |                       |  |                    |               |                         |
| 2,287         |                        |                |             | 0                     | 0  | 0                  | 0             |                         |
| 14,291        | 3.20                   | 45,732         | { 1878      | 1.39                  |  | .019               |               | Resurfaced, G to K.     |
|               |                        |                | { 1888      | .37                   |  | .014               |               |                         |
|               |                        |                | { 1891      | .325                  |  | .013               | .011          |                         |
|               |                        |                | { 1902      |                       |  |                    |               |                         |
| 2,400         |                        |                |             |                       |  |                    |               |                         |
| 4,594         | 2.25                   | 13,538         |             | 0                     | 0  | 0                  | 0             |                         |
| 2,145         | 2.25                   | 6.952          |             | 0                     | 0  | 0                  | 0             |                         |
| 5,038         |                        |                |             |                       |  |                    |               |                         |
| 2,537         |                        |                |             |                       |  |                    |               |                         |

TABLE D.—*Descriptive list of street pavements and suburban roadways.*

| Street.                 | From—  | To—                   | Kind of pavement or roadway. |
|-------------------------|--|-----------------------|------------------------------|
| Seventh, NW (west side) | Market space   | D                     | Granite                      |
| Seventh, NW             | Pennsylvania avenue<br>(East side, Market space to D.) | D                     | Coal tar                     |
| Do                      | D to E and G to Q.                                     |                       | Granite                      |
| Do                      | Intersections G, H, and I.                             |                       | do                           |
| Do                      | E  | G                     | Asphalt, H. B.               |
| Seventh, NW (west side) | Q  | Florida avenue        | Granite                      |
| Seventh, NW             | Q  | do                    | do                           |
| Seventh, NE             | East Capitol   | Massachusetts avenue  | Asphalt block                |
| Do                      | Massachusetts avenue                                   | Maryland avenue       | do                           |
| Do                      | Maryland avenue  | Florida avenue        | Gravel                       |
| Seventh, SE             | East Capitol   | Pennsylvania avenue   | Asphalt block                |
| Do                      | Pennsylvania avenue                                    | Virginia avenue       | do                           |
| Do                      | Virginia avenue  | M                     | Macadam                      |
| Seventh, SW             | B. N   | B. S.                 | Trap                         |
| Do                      | B. S.  | Water                 | Granite                      |
| Eighth, NW              | Pennsylvania avenue                                    | E                     | do                           |
| Do                      | E  | F                     | Concrete                     |
| Do                      | G  | L                     | Asphalt, H. B.               |
| Do                      | L  | N                     | Asphalt, B. B.               |
| Do                      | N  | R                     | Asphalt, H. B.               |
| Do                      | R  | S                     | Coal tar                     |
| Do                      | S  | Florida avenue        | do                           |
| Do                      | Florida avenue   | Grant avenue          | Macadam                      |
| Eighth, NE              | East Capitol   | Massachusetts avenue  | Asphalt block                |
| Do                      | Massachusetts avenue                                   | Maryland avenue       | do                           |
| Do                      | Maryland avenue  | I                     | Gravel                       |
| Do                      | I  | K                     | Macadam                      |
| Do                      | L  | Florida avenue        | do                           |
| Eighth, SE              | East Capitol   | North Carolina avenue | Asphalt, H. B.               |
| Do                      | North Carolina avenue                                  | Pennsylvania avenue   | Asphalt                      |
| Do                      | Pennsylvania avenue                                    | K                     | Asphalt, H. B.               |
| Do                      | K  | M                     | do                           |
| Do                      | Intersection of M.                                     |                       | do                           |
| Eighth, SW              | B  | C                     | Asphalt                      |
| Do                      | C  | E                     | Asphalt, H. B.               |
| Do                      | E  | H                     | do                           |
| Do                      | H  | Water                 | Gravel                       |
| Ninth, NW               | B  | Pennsylvania avenue   | Granite                      |
| Do                      | Pennsylvania avenue                                    | F                     | Asphalt, H. B.               |
| Do                      | F  | P                     | Coal tar                     |
| Ninth, NW (east side)   | P  | Rhode Island avenue   | Asphalt, H. B.               |
| Ninth, NW (west side)   | P  | Florida avenue        | do                           |
| Ninth, NW (east side)   | Rhode Island avenue                                    | do                    | do                           |
| Ninth, NW               | Florida avenue   | Grant avenue          | Macadam                      |
| Ninth, NE               | East Capitol   | Massachusetts avenue  | Asphalt, H. B.               |
| Do                      | Massachusetts avenue                                   | Maryland avenue       | Asphalt block                |
| Do                      | Maryland avenue  | H                     | Asphalt                      |
| Do                      | H  | I                     | Gravel                       |
| Do                      | G  | Florida avenue        | Macadam                      |
| Ninth, SE               | East Capitol   | A                     | Asphalt block                |
| Do                      | A  | Pennsylvania avenue   | Macadam                      |
| Do                      | Pennsylvania avenue                                    | E                     | Asphalt, H. B.               |
| Do                      | South Carolina avenue                                  | Pennsylvania avenue   | Asphalt block                |
| Do                      | I  | K                     | Gravel                       |
| Do                      | K  | M                     | Macadam                      |

retire to asphalt pavements to July 1.

Remarks.

### Permit work.

**Private expense.**

**On asphalt block.**

**Widening east side.**  
**Widening west side.**

### Widening.

**4-inch base.**

**Includes 1,000 yards  
of granite.**

Covered with asphalt binder, 1896.

TABLE D.—*Description list of street pavements and suburban roadways.*

|             | From—                             | To—                  | Kind of pavement or roadway. |
|-------------|-----------------------------------|----------------------|------------------------------|
| N. 1st St.  | Water                             | C                    | Asphalt                      |
| N. 2nd St.  | Water                             | Water                | Granite                      |
| N. 3rd St.  | Pennsylvania avenue               | Pennsylvania avenue  | do                           |
| N. 4th St.  | E                                 | E                    | Asphalt, H. B.               |
| N. 5th St.  | E                                 | F                    | do                           |
| N. 6th St.  | F                                 | G                    | do                           |
| N. 7th St.  | G                                 | K                    | Coal tar                     |
| N. 8th St.  | K                                 | M                    | Asphalt, H. B.               |
| N. 9th St.  | M                                 | O                    | do                           |
| N. 10th St. | M                                 | R                    | do                           |
| N. 11th St. | R                                 | S                    | Coal tar                     |
| N. 12th St. | S                                 | T                    | Asphalt, H. B.               |
| N. 13th St. | T                                 | U                    | do                           |
| N. 14th St. | U                                 | Florida avenue       | do                           |
| N. 15th St. | Florida avenue                    | C                    | Asphalt block                |
| N. 16th St. | C                                 | Maryland avenue      | Gravel                       |
| N. 17th St. | Maryland avenue                   | G                    | Asphalt, H. B.               |
| N. 18th St. | G                                 | H                    | do                           |
| N. 19th St. | H                                 | I                    | Gravel                       |
| N. 20th St. | East Capitol                      | D                    | Macadam                      |
| N. 21st St. | D                                 | Pennsylvania avenue  | Asphalt block                |
| N. 22nd St. | Pennsylvania avenue               | I                    | do                           |
| N. 23rd St. | do                                | I                    | do                           |
| N. 24th St. | K                                 | M                    | Macadam                      |
| N. 25th St. | B                                 | Maryland avenue      | Asphalt block                |
| N. 26th St. | D                                 | Water                | Cobble                       |
| N. 27th St. | B                                 | D                    | Asphalt, H. B.               |
| N. 28th St. | D                                 | E                    | do                           |
| N. 29th St. | E                                 | F                    | Granite                      |
| N. 30th St. | F                                 | G                    | do                           |
| N. 31st St. | G                                 | K                    | Coal tar                     |
| N. 32nd St. | K                                 | O                    | Granite                      |
| N. 33rd St. | O                                 | Florida avenue       | Asphalt, H. B.               |
| N. 34th St. | East Capitol                      | Massachusetts avenue | Asphalt block                |
| N. 35th St. | Massachusetts avenue              | C                    | do                           |
| N. 36th St. | C                                 | Maryland avenue      | Gravel                       |
| N. 37th St. | Maryland avenue                   | Florida avenue       | Macadam                      |
| N. 38th St. | East Capitol                      | C                    | Asphalt block                |
| N. 39th St. | C                                 | Pennsylvania avenue  | do                           |
| N. 40th St. | Pennsylvania avenue               | Eastern Branch       | Granite                      |
| N. 41st St. | M                                 | do                   | do                           |
| N. 42nd St. | B. south                          | Water                | Belgian                      |
| N. 43rd St. | C                                 | D                    | Asphalt, H. B.               |
| N. 44th St. | Pennsylvania avenue               | E                    | do                           |
| N. 45th St. | E                                 | F                    | Granite                      |
| N. 46th St. | F                                 | N                    | Coal tar                     |
| N. 47th St. | Intersection of G.                |                      | Asphalt, H. B.               |
| N. 48th St. | N                                 | O                    | do                           |
| N. 49th St. | O                                 | Rhode Island avenue  | do                           |
| N. 50th St. | Rhode Island avenue               | Vermont avenue       | Coal tar                     |
| N. 51st St. | R                                 | S                    | do                           |
| N. 52nd St. | S                                 | V                    | Asphalt, B. B.               |
| N. 53rd St. | V                                 | Florida avenue       | Asphalt, H. B.               |
| N. 54th St. | Lincoln square northward.         |                      | do                           |
| N. 55th St. | Extension to 144 feet south of B. |                      | do                           |
| N. 56th St. | C                                 | Maryland avenue      | Macadam                      |
| N. 57th St. | Maryland avenue                   | H                    | do                           |
| N. 58th St. | H                                 | Florida avenue       | do                           |
| N. 59th St. | Florida avenue                    | Mount Olivet road    | do                           |
| N. 60th St. | Detroit                           | Bunker Hill road     | Gravel                       |



repairs to asphalt pavements to July 1.

| Square yards. | Price per square yard. | Original cost. | Resurfaced   |        | Remarks.              |
|---------------|------------------------|----------------|--|--------|-----------------------|
|               |                        |                | Year   | (sq y) |                       |
| 507           | \$1.634                | \$828.00       | 1881   |        |                       |
| 1,579         | 3.00                   | 4,738.00       |  |        |                       |
| 18,465        | 2.61                   | 48,272.00      |  |        |                       |
| 2,089         | 2.50                   | 5,178.00       |  |        |                       |
| 8,528         | 1.47                   | 9,891.00       |  |        | In place of granite.  |
| 4,840         | 2.74                   | 16,197.00      |  |        |                       |
| 3,408         |                        | 9,808.00       |  |        |                       |
| 8,840         | 1.99                   | 8,942.00       |  |        |                       |
| 8,315         | 2.00                   | 11,144.00      |  |        |                       |
| 10,400        |                        |                |  |        |                       |
| 7,228         | 1.984                  | 22,140.00      |  |        |                       |
| 8,304         | 2.00                   | 27,312.00      |  |        |                       |
| 1,786         | .98                    | 3,511.00       |  |        |                       |
| 6,926         | 2.30                   | 22,865.00      |  |        |                       |
| 15,199        | 1.70                   | 25,787.00      |  |        |                       |
| 3,658         | 1.87                   | 6,925.00       |  |        |                       |
| 1,938         | 1.90                   | 3,731.00       | 1882   |        |                       |
| 4,883         | 2.29                   | 11,202.00      |  |        |                       |
| 3,610         | 3.00                   | 11,202.00      | 1891   |        |                       |
| 6,498         | 2.29                   | 14,973.00      | 1902   |        | Resurfaced P to Q.    |
| 2,068         | 1.98                   | 5,227.00       | 1900   |        |                       |
| 3,624         | 2.00                   | 8,937.00       |  |        |                       |
| 4,840         |                        |                |  |        |                       |
| 2,989         | 2.00                   | 7,842.00       |  |        |                       |
| 5,856         | 2.00                   | 15,605.00      |  |        |                       |
| 8,600         |                        |                |  |        |                       |
| 1,811         | .98                    | 1,781.00       |  |        |                       |
| 1,500         |                        |                |  |        |                       |
| 2,508         | 1.68                   | 6,369.00       |  |        |                       |
| 4,765         | 1.984                  | 10,498.00      |  |        | 4-inch base.          |
| 9,122         | 1.92                   | 17,680.00      |  |        |                       |
| 2,829         | 2.39                   | 6,825.00       |  |        |                       |
| 480           |                        | 1,071.00       |  |        | In place of cobble.   |
| 1,484         | 1.30                   | 3,158.00       |  |        | On cobble base.       |
| 8,085         | 2.25                   | 7,800.00       |  |        |                       |
| 3,573         | 1.68                   | 7,459.00       |  |        |                       |
| 1,800         |                        |                |  |        |                       |
| 2,280         | 1.91                   | 4,816.00       |  |        |                       |
| 3,381         | 2.25                   | 9,004.00       |  |        | In place of coal tar. |
| 28,988        | 3.20                   | 94,558.00      | 1878<br>1884<br>1885<br>1886<br>1887<br>1896<br>1897 |        |                       |
| 1,583         | 2.28                   | 3,639.00       |  |        |                       |
| 6,147         | 1.46                   | 9,513.00       |  |        |                       |
| 3,871         | 2.30                   | 7,759.00       |  |        |                       |
| 8,500         |                        |                |  |        |                       |
| 1,217         | 2.00                   | 4,065.00       |  |        | 4-inch base.          |
| 6,712         | 2.00                   | 21,589.00      |  |        |                       |
| 5,781         | 2.00                   | 17,962.00      |  |        |                       |
| 2,180         |                        |                |  |        |                       |
| 2,300         |                        |                |  |        |                       |
| 1,218         | 1.77                   | 2,872.98       |  |        |                       |
| 4,525         | .96                    | 12,632.00      |  |        |                       |
| 817           | 1.794                  | 2,361.00       |  |        |                       |
| 1,247         | 1.77                   | 2,180.00       |  |        |                       |
| 1,000         |                        |                |  |        |                       |
| 2,000         |                        |                |  |        |                       |

TABLE D.—*Descriptive list of street pavements and suburban roadway.*

| Street.                    | From—                             | To—                  | Kind of pavement or roadway. |
|----------------------------|-----------------------------------|----------------------|------------------------------|
| Ninth, SW                  | B                                 | C                    | Asphalt                      |
| Do                         | C                                 | Water                | Granite                      |
| Tenth, NW                  | B                                 | Pennsylvania avenue  | do                           |
| Do                         | D                                 | E                    | Asphalt, H. B.               |
| Do                         | E                                 | F                    | do                           |
| Do                         | F                                 | G                    | do                           |
| Do                         | G                                 | K                    | Coal tar                     |
| Do                         | K                                 | M                    | Asphalt, H. B.               |
| Do                         | M                                 | O                    | do                           |
| Do                         | O                                 | R                    | do                           |
| Do                         | R                                 | S                    | Coal tar                     |
| Do                         | S                                 | T                    | Asphalt, H. B.               |
| Do                         | T                                 | U                    | do                           |
| Do                         | U                                 | Florida avenue       | do                           |
| Tenth, NE                  | East Capitol                      | C                    | Asphalt block                |
| Do                         | C                                 | Maryland avenue      | Gravel                       |
| Do                         | Maryland avenue                   | G                    | Asphalt, H. B.               |
| Do                         | G                                 | H                    | do                           |
| Do                         | H                                 | I                    | Gravel                       |
| Tenth, SE                  | East Capitol                      | D                    | Macadam                      |
| Do                         | D                                 | Pennsylvania avenue  | Asphalt block                |
| Do                         | Pennsylvania avenue               | I                    | do                           |
| Do                         | do                                | I                    | do                           |
| Do                         | K                                 | M                    | Macadam                      |
| Tenth, SW                  | B                                 | Maryland avenue      | Asphalt block                |
| Do                         | D                                 | Water                | Cobble                       |
| Eleventh, NW               | B                                 | D                    | Asphalt, H. B.               |
| Do                         | D                                 | E                    | do                           |
| Do                         | E                                 | F                    | Granite                      |
| Do                         | F                                 | G                    | do                           |
| Do                         | G                                 | K                    | Coal tar                     |
| Do                         | K                                 | O                    | Granite                      |
| Do                         | O                                 | Florida avenue       | Asphalt, H. B.               |
| Eleventh, NE               | East Capitol                      | Massachusetts avenue | Asphalt block                |
| Do                         | Massachusetts avenue              | C                    | do                           |
| Do                         | C                                 | Maryland avenue      | Gravel                       |
| Do                         | Maryland avenue                   | Florida avenue       | Macadam                      |
| Eleventh, SE               | East Capitol                      | C                    | Asphalt block                |
| Do                         | C                                 | Pennsylvania avenue  | do                           |
| Do                         | Pennsylvania avenue               | Eastern Branch       | Granite                      |
| Eleventh, SE. (west side). | M                                 | do                   | do                           |
| Eleventh, SW               | B, south                          | Water                | Belgian                      |
| Twelfth, NW                | C                                 | D                    | Asphalt, H. B.               |
| Do                         | Pennsylvania avenue               | E                    | do                           |
| Do                         | E                                 | F                    | Granite                      |
| Do                         | F                                 | N                    | Coal tar                     |
| Do                         | Intersection of G.                |                      | Asphalt, H. B.               |
| Do                         | N                                 | O                    | do                           |
| Do                         | O                                 | Rhode Island avenue  | do                           |
| Do                         | Rhode Island avenue               | Vermont avenue       | Coal tar                     |
| Do                         | R                                 | S                    | do                           |
| Do                         | S                                 | V                    | Asphalt, B. B.               |
| Do                         | V                                 | Florida avenue       | Asphalt, H. B.               |
| Twelfth, NE                | Lincoln square northward.         |                      | do                           |
| Do                         | Extension to 144 feet south of B. |                      | do                           |
| Do                         | C                                 | Maryland avenue      | Macadam                      |
| Do                         | Maryland avenue                   | H                    | do                           |
| Do                         | H                                 | Florida avenue       | do                           |
| Do                         | Florida avenue                    | Mount Olivet road    | do                           |
| Do                         | Detroit                           | Bunker Hill road     | Gravel                       |

Repairs to asphalt pavements to July 1, 1902—Continued.

| No. | Square yards. | Price per square yard | Original cost. | Resurfaced. |                       | Repairs—average annual cost per square yard. |                    |               | Remarks.  |
|-----|---------------|-----------------------|----------------|-------------|-----------------------|--|--------------------|---------------|---|
|     |               |                       |                | Year.       | Cost per square yard. | Prior to resurfacing.                        | Since resurfacing. | Current year. |   |
| 9   | 1,454         | \$1.20                | \$2,879.00     |             |                       | \$0.008                                      |                    | 0             | Cobble base.  |
| 8   | 7,061         |                       | 22,859.00      |             |                       |  |                    |               |   |
| 2   | 3,103         | 3.20                  | 9,927.00       |             |                       |  |                    |               |   |
| 6   | 2,487         | 1.75                  |                |             | 0                     | 0  | 0                  | 0             |   |
| 8   | 2,000         | 1.75                  | 12,256.00      |             | 0                     | 0  | 0                  | 0             | Laid in 1885, widened 1896; practically new pavement. Roadway widened, granite removed. |
| 0   | 955           | 1.74½                 | 1,775.00       |             |                       | .049   |                    | \$0.037       |   |
| 5   | 4,828         | 3.00                  | 14,913.00      | { 1889      | \$1.26                | .014   | \$0.037            |               |   |
| 0   | 3,898         | 1.47                  | 5,074.00       | { 1891      | .43                   |  | .016               | .043          |   |
| 1   | 3,443         | 1.85                  | 6,519.00       |             |                       |  | .017               | .013          |   |
| 3   | 4,433         | 2.28                  | 10,109.00      |             |                       |  | .009               | .084          |   |
|     |               |                       |                |             |                       |  | .043               | .11           |   |
| 7   | 1,992         | 1.98                  | 6,640.00       | 1901        | 1.00                  | .068   |                    | .044          |   |
| 1   | 1,943         | 2.25                  | 6,344.00       |             | 0                     | 0  | 0                  | 0             |   |
| 5   | 2,588         | 1.68                  | 6,075.00       |             | 0                     | 0  | 0                  | 0             |   |
| 0   | 4,683         | 1.80                  | 12,291.00      |             | 0                     | 0  | 0                  | 0             |   |
| 7   | 4,208         | 1.77                  | 10,972.00      |             |                       |  |                    |               |   |
| 3   | 2,670         |                       |                |             |                       |  |                    |               | 4-inch base.  |
| 2   | 2,915         | 1.98½                 |                |             | 0                     | 0  | 0                  | 0             |   |
|     | 2,061         | 2.00                  |                |             | 0                     | 0  | 0                  | 0             |   |
|     | 2,160         |                       |                |             |                       |  |                    |               |   |
| 0   | 4,748         | .98                   | 8,085.00       |             |                       |  |                    |               | In place of cobble.   |
| 1   | 788           | 2.00                  | 2,489.00       |             |                       |  |                    |               |   |
| 6   | 4,478         | 1.84                  | 11,449.00      |             |                       |  |                    |               |   |
| 7   | 449           | 1.80                  | 1,017.00       |             |                       |  |                    |               |   |
| 1   | 1,500         |                       |                |             |                       |  |                    |               |   |
| 5   | 2,411         | 2.10                  | 5,544.00       |             |                       |  |                    |               |   |
| 3   | 2,589         | .70                   | 1,812.00       |             |                       |  |                    |               |   |
| 7   | 3,854         | 1.45                  | 8,408.00       |             | 0                     | 0  | 0                  | 0             |   |
| 3   | 2,500         | 1.78                  | 4,451.00       | 1891        | 1.736                 | .032   | .012               | .214          |   |
| 9   | 1,734         | 2.11                  | 3,659.00       |             |                       |  |                    |               |   |
| 0   | 1,214         | 1.89                  | 2,321.00       |             |                       |  |                    |               |   |
| 5   | 3,896         | 3.00                  | 12,813.00      | 1898        | .59                   | .045   | .067               | .015          |   |
| 0   | 4,328         | 1.73                  | 8,104.00       |             |                       |  |                    |               |   |
| 1   | 8,734         | 2.25                  | 37,118.00      |             |                       | .002   |                    | .024          |   |
| 5   | 1,098         | 1.84                  | 2,500.00       |             |                       |  |                    |               |   |
| 0   | 4,202         | 1.77                  | 9,412.00       |             |                       |  |                    |               |   |
| 5   | 2,300         |                       |                |             |                       |  |                    |               |   |
| 1   | 6,951         | .68                   | 5,642.00       |             |                       |  |                    |               |   |
| 3   | 8,076         | 2.00                  | 23,776.00      |             |                       |  |                    |               |   |
| 0   | 7,006         | 2.00                  | 19,523.00      |             |                       |  |                    |               |   |
| 9   | 15,451        | .91                   | 53,724.00      |             |                       |  |                    |               |   |
| 2   | 4,698         | 2.70                  | 11,791.00      |             |                       |  |                    |               |   |
| 3   | 10,511        | 3.45                  | 36,893.00      |             |                       |  |                    |               |   |
| 7   | 1,911         | 1.55                  | 4,366.00       |             | 0                     | 0  | 0                  | 0             |   |
| 3   | 1,292         | 1.78                  | 2,316.00       | 1886        | .946                  | .02  | .068               | .055          |   |
| 9   | 1,627         | 2.11                  | 3,434.00       |             |                       |  |                    |               |   |
| 5   | 13,039        | 3.00                  | 40,517.00      | { 1889      | .117                  | .005   | .04                | .021          |   |
| 1   | 198           | 2.04                  | 407.00         | { 1894      | .845                  |  | .023               |               |   |
| 1   | 1,522         | 1.85                  | 2,873.00       |             | 0                     | 0  | 0                  | 0             |   |
| 3   | 1,859         | 2.27                  | 4,240.00       |             |                       | .041   |                    |               |   |
| 7   | 2,304         | 1.98                  | 8,120.00       |             |                       | .035   |                    | .114          |   |
| 3   | 1,798         | 2.00                  | 8,177.00       |             |                       | .048   |                    | .124          |   |
| 0   | 5,877         | 2.00                  | 18,873.00      |             |                       | .004   |                    | .031          |   |
| 1   | 3,554         | 2.25                  | 12,542.00      |             | 0                     | .006   |                    | 0             |   |
| 5   | 580           | 1.68                  | 1,024.00       |             | 0                     | 0  | 0                  | .018          |   |
| 3   | 1,737         | 1.76                  | 3,830.00       |             | 0                     | 0  | 0                  | 0             |   |
| 1   | 4,770         |                       |                |             |                       |  |                    |               |   |
| 0   | 4,374         | .96                   | 4,450.00       |             |                       |  |                    |               |   |
| 0   | 3,543         |                       | 6,188.00       |             |                       |  |                    |               |   |
| 3   | 10,544        | .91                   | 10,817.00      |             |                       |  |                    |               |   |
| 1   | 13,758        | .20                   | 7,393.00       |             |                       |  |                    |               |   |

TABLE D.—*Descriptive list of street pavements and suburban roadways.*

| Street.                      | From—                       | To—                        | Kind of pavement or roadway. |
|------------------------------|-----------------------------|----------------------------|------------------------------|
| Twelfth, SE                  | East Capitol                | Pennsylvania avenue        | Gravel                       |
| Twelfth, SW                  | Pennsylvania avenue to B, N | Ohio avenue and B to river | Belgian                      |
| Do                           | B, N                        | B, S                       | do                           |
| Thirteenth, NW               | B                           | C                          | Asphalt, H. B.               |
| Do                           | C                           | Pennsylvania avenue        | Coal tar                     |
| Do                           | Pennsylvania avenue         | E                          | Asphalt, H. B.               |
| Do                           | E                           | F                          | Granite                      |
| Do                           | F                           | P                          | Coal tar                     |
| Do                           | Around Iowa circle.         |                            | do                           |
| Do                           | P                           | Corcoran                   | Asphalt, H. B.               |
| Do                           | Corcoran                    | T                          | do                           |
| Do                           | T                           | Florida avenue             | do                           |
| Do                           | Florida avenue              | Clifton                    | Macadam                      |
| Do                           | Clifton                     | Whitney avenue             | do                           |
| Do                           | Whitney avenue              | Spring road                | Gravel                       |
| Thirteenth, NE               | Emerson                     | Maryland avenue            | Asphalt, B. B.               |
| Thirteenth, SE               | East Capitol                | D                          | Gravel                       |
| Do                           | D                           | Pennsylvania avenue        | Macadam                      |
| Thirteenth, SW               | B                           | Maryland avenue            | Coal tar                     |
| Thirteen-and-a-half, NW      | do                          | E                          | Cobble                       |
| Thirteen-and-a-half, SW      | do                          | D                          | Asphalt block                |
| Fourteenth, NW               | do                          | Pennsylvania avenue        | Coal tar                     |
| Do                           | Pennsylvania avenue         | F                          | Granite                      |
| Do                           | F                           | New York avenue            | Coal tar                     |
| Do                           | New York avenue             | H                          | do                           |
| Fourteenth, NW. (east side). | H                           | Florida avenue             | Asphalt, H. B.               |
| Fourteenth, NW. (west side). | H                           | M                          | do                           |
| Do                           | M                           | Florida avenue             | do                           |
| Fourteenth, NW. (east side). | Florida avenue              | Clifton                    | do                           |
| Do                           | Clifton                     | Roanoke                    | do                           |
| Fourteenth, NW. (west side). | Florida avenue              | Euclid                     | do                           |
| Fourteenth, NW               | Yale, northward.            |                            | do                           |
| Do                           | Extension to park.          |                            | do                           |
| Fourteenth, NW. (east side). | Kenyon                      | Park                       | do                           |
| Fourteenth Street road       |                             |                            |                              |
| Fourteenth, NE               | East Capitol                | E                          | Gravel                       |
| Do                           | Maryland avenue             | E                          | Macadam                      |
| Fourteenth, SE               | East Capitol                | Pennsylvania avenue        | Gravel                       |
| Fourteenth, SW               | B, north                    | B, south                   | Belgian                      |
| Do                           | B, south                    | Alley south of B           | Asphalt, H. B.               |
| Do                           | Alley south of B            | Maryland avenue            | Granite                      |
| Fifteenth, NW                | B                           | E                          | Asphalt                      |
| Do                           | E                           | Pennsylvania avenue        | Asphalt, H. B.               |
| Do                           | Pennsylvania avenue         | New York avenue            | do                           |
| Do                           | New York avenue             | Vermont avenue             | Coal tar                     |
| Do                           | I                           | K                          | do                           |
| Do                           | K                           | Rhode Island avenue        | Asphalt, H. B.               |
| Do                           | Rhode Island avenue         | S                          | Coal tar                     |
| Do                           | S                           | U                          | Asphalt, H. B.               |
| Do                           | U                           | V                          | do                           |

Repairs to asphalt pavements to July 1,

| No. | Square yards. | Price per square yard. | Original cost. | Resurfaced |                       | Prior to resurfacing. | Since resurfacing. | Current year. | Remarks.                           |
|-----|---------------|------------------------|----------------|------------|-----------------------|-----------------------|--------------------|---------------|------------------------------------|
|     |               |                        |                | Year.      | Cost per square yard. |                       |                    |               |                                    |
| 85  | 11,305        | \$0.59                 | \$6,678.00     |            |                       |                       |                    |               |                                    |
| 86  | 10,708        | 3.00                   | 32,124.00      |            |                       |                       |                    |               |                                    |
| 87  | 8,187         | 3.50                   | 28,655.00      |            |                       |                       |                    |               |                                    |
| 88  | 1,780         | 1.78                   | 3,148.00       | 1888       | \$1.321               | \$0.073               | \$0.105            | \$0.04        |                                    |
| 89  | 2,087         | 3.00                   | 6,261.00       | 1887       | 1.49                  | .018                  | .082               | .081          |                                    |
| 90  | 685           | 1.79                   | 1,228.00       |            |                       | .057                  |                    | .10           |                                    |
| 91  | 1,741         | 2.11                   | 3,674.00       |            |                       |                       |                    |               |                                    |
| 92  | 15,082        | 3.20                   | 48,262.00      | 1885       | .28                   | .047                  |                    |               |                                    |
| 93  | 8,088         | 3.20                   | 25,882.00      | 1889       | .391                  |                       | .018               | .016          |                                    |
| 94  | 2,128         | 2.09                   | 4,448.00       | 1885       | 1.75                  | .019                  | .085               | .024          |                                    |
| 95  | 4,278         | 2.25                   | 9,625.00       |            |                       | .037                  |                    | .059          |                                    |
| 96  | 7,271         | 3.25                   | 23,631.00      |            | 0                     | .041                  |                    | .037          |                                    |
| 97  | 2,700         |                        |                |            |                       | 0                     | 0                  | .0035         |                                    |
| 98  | 14,000        |                        |                |            |                       |                       |                    |               |                                    |
| 99  | 5,800         |                        |                |            |                       |                       |                    |               |                                    |
| 100 | 1,735         | 2.00                   | 3,470.00       |            | 0                     | 0                     | 0                  | 0             |                                    |
| 101 | 11,013        | .124                   | 1,366.00       |            |                       |                       |                    |               |                                    |
| 102 | 2,588         | .95                    | 2,459.00       |            |                       |                       |                    |               |                                    |
| 103 | 5,706         | 3.00                   | 17,118.00      | 1891       | 1.27                  | .021                  | .038               | .002          | East side laid by railway company. |
| 104 | 3,016         | 1.84                   | 5,549.00       |            |                       |                       |                    |               |                                    |
| 105 | 8,852         | 1.97                   | 17,528.00      | 1894       | .404                  | .049                  | .121               | .034          |                                    |
| 106 | 1,734         | 2.80                   | 4,855.00       |            |                       |                       |                    |               |                                    |
| 107 | 3,732         | 3.20                   | 11,942.00      | 1894       | 1.546                 | 0.008                 | .053               | .055          |                                    |
| 108 | 1,549         | 3.20                   | 4,957.00       | 1895       |                       | .022                  | .028               | .012          |                                    |
| 109 | 29,085        | 1.97                   | 57,297.00      | 1891       | .889                  | .03                   | .004               |               |                                    |
| 110 | 5,682         | 1.75                   | 9,944.00       | 1893       | .841                  |                       | .015               | .004          |                                    |
| 111 | 14,583        | 2.28                   | 33,248.00      | 1895       | .022                  | .083                  | .037               | .03           |                                    |
| 112 | 3,764         | 2.00                   | 7,528.00       | 1894       | 1.09                  |                       |                    |               |                                    |
| 113 | 879           | 1.77                   | 1,556.00       | 1901       | .618                  | .031                  |                    | .021          | 4-inch base                        |
| 114 |               |                        |                |            | 0                     | 0                     | 0                  | .0068         |                                    |
| 115 |               |                        |                |            | 0                     | 0                     | 0                  | 0             | In place of 4-inch base.           |
| 116 | 2,723         | 1.77                   | 4,820.00       |            | 0                     | 0                     | 0                  | 0             | Do.                                |
| 117 | 3,725         | 2.25                   | 8,381.00       |            | 0                     | 0                     | 0                  | .0076         |                                    |
| 118 | 4,807         | 2.25                   | 10,816.00      |            | 0                     | 0                     | .007               | .0116         |                                    |
| 119 | 488           | 1.68                   | 819.00         |            | 0                     | 0                     | 0                  | 0             | Widening.                          |
| 120 | 6,800         |                        |                |            |                       |                       |                    |               |                                    |
| 121 | 6,800         |                        |                |            |                       |                       |                    |               |                                    |
| 122 | 8,000         |                        |                |            |                       |                       |                    |               |                                    |
| 123 | 12,800        |                        |                |            |                       |                       |                    |               |                                    |
| 124 | 7,841         | 3.50                   | 27,444.00      |            |                       |                       |                    |               |                                    |
| 125 | 931           | 1.47                   | 1,368.00       |            | 0                     | 0                     | 0                  | 0             | In place of granite.               |
| 126 | 5,853         | 1.40                   | 8,194.00       |            |                       |                       |                    | .0016         | On asphalt block                   |
| 127 | 5,252         | 1.03                   | 5,409.00       |            |                       |                       |                    | .0087         | In place of asphalt block.         |
| 128 | 1,792         |                        |                |            |                       |                       |                    |               | 8-inch base                        |
| 129 | 4,219         | 2.25                   | 9,493.00       |            |                       | .042                  |                    | .019          |                                    |
| 130 | 7,005         | 3.20                   | 22,416.00      | 1879       | .957                  |                       | .014               | .006          |                                    |
| 131 | 1,794         | 3.00                   | 5,382.00       | 1891       | 1.39                  |                       | .015               | .035          | West side McPherson square.        |
| 132 | 6,921         | 1.85                   | 12,804.00      |            |                       | .018                  |                    | .006          |                                    |
| 133 | 7,516         | 3.00                   | 22,548.00      | 1887       | .755                  | .012                  | .07                | .0097         |                                    |
| 134 | 3,768         | 2.25                   | 8,478.00       | 1891       | .65                   |                       | .007               | .01           |                                    |
| 135 | 1,486         | 1.68                   | 2,496.00       |            | 0                     | .0055                 |                    | .018          |                                    |

TABLE D.—*Descriptive list of street pavements and suburban roads*

| Street.                                       | From—                                   | To—                                     | Kind of pavement or roadway. |
|---|---|---|------------------------------|
| Fifteenth, NE .....                           | East Capitol .....                      | E .....                                 | Gravel .....                 |
| Do .....                                      | E .....                                 | H .....                                 | Asphalt .....                |
| Fifteenth, SE .....                           | East Capitol .....                      | Pennsylvania avenue .....               | Gravel .....                 |
| Fifteen-and-a-half, NW. (Madison place) ..... | Pennsylvania avenue .....               | H .....                                 | Coal tar .....               |
| Sixteenth, NW .....                           | H .....                                 | Scott square .....                      | Asphalt, H. B. .....         |
| Do .....                                      | Scott square .....                      | R .....                                 | do .....                     |
| Do .....                                      | R .....                                 | 156 feet south of Florida avenue. ..... | do .....                     |
| Do .....                                      | 156 feet south of Florida avenue. ..... | Morris .....                            | do .....                     |
| Do .....                                      | Morris .....                            | Superior .....                          | Macadam .....                |
| Do .....                                      | Kenesaw .....                           | Park .....                              | do .....                     |
| Sixteen-and-a-half, NW. (Jackson place) ..... | Pennsylvania avenue .....               | H .....                                 | Coal tar .....               |
| Seventeenth, NW .....                         | B .....                                 | E .....                                 | do .....                     |
| Do .....                                      | E .....                                 | New York avenue .....                   | Asphalt, H. B. .....         |
| Do .....                                      | New York avenue .....                   | Pennsylvania avenue .....               | Asphalt, B. B. .....         |
| Do .....                                      | Pennsylvania avenue .....               | I .....                                 | Coal tar .....               |
| Do .....                                      | I .....                                 | Massachusetts avenue .....              | do .....                     |
| Do .....                                      | Massachusetts avenue .....              | P .....                                 | do .....                     |
| Do .....                                      | P .....                                 | Q .....                                 | do .....                     |
| Do .....                                      | Q .....                                 | R .....                                 | Asphalt, B. B. .....         |
| Do .....                                      | R .....                                 | T .....                                 | do .....                     |
| Do .....                                      | T .....                                 | Florida avenue .....                    | Asphalt .....                |
| Do .....                                      | Grant .....                             | Lowell .....                            | Macadam .....                |
| Eighteenth, NW .....                          | Virginia avenue .....                   | D .....                                 | do .....                     |
| Do .....                                      | E .....                                 | New York avenue .....                   | Coal tar .....               |
| Do .....                                      | E .....                                 | Pennsylvania avenue .....               | Asphalt, H. B. .....         |
| Do .....                                      | Pennsylvania avenue .....               | K .....                                 | Coal tar .....               |
| Do .....                                      | K .....                                 | L .....                                 | Asphalt block .....          |
| Do .....                                      | L .....                                 | P .....                                 | Coal tar .....               |
| Do .....                                      | P .....                                 | Q .....                                 | Asphalt, H. B. .....         |
| Do .....                                      | New Hampshire avenue. .....             | S .....                                 | do .....                     |
| Do .....                                      | S .....                                 | Florida avenue .....                    | do .....                     |
| Do .....                                      | Florida avenue .....                    | Columbia road .....                     | Asphalt, B. B. .....         |
| Do .....                                      | do .....                                | Fourth .....                            | Asphalt, H. B. .....         |
| Do .....                                      | Grant .....                             | Sixth .....                             | do .....                     |
| Nineteenth, NW .....                          | Virginia avenue .....                   | Howard .....                            | Macadam .....                |
| Do .....                                      | E .....                                 | E .....                                 | do .....                     |
| Do .....                                      | E .....                                 | Pennsylvania avenue .....               | Coal tar .....               |
| Do .....                                      | Pennsylvania avenue .....               | K .....                                 | Granite .....                |
| Do .....                                      | K .....                                 | M .....                                 | do .....                     |
| Do .....                                      | M .....                                 | N .....                                 | do .....                     |
| Do .....                                      | N .....                                 | Circle .....                            | Asphalt, H. B. .....         |
| Do .....                                      | P .....                                 | Florida avenue .....                    | Coal tar .....               |
| Do .....                                      | Florida avenue .....                    | Columbia road .....                     | Asphalt, H. B. .....         |
| Do .....                                      | Baltimore .....                         | Cincinnati .....                        | do .....                     |
| Twentieth, NW .....                           | Virginia avenue .....                   | E .....                                 | Macadam .....                |
| Do .....                                      | E .....                                 | Pennsylvania avenue .....               | Coal tar .....               |
| Do .....                                      | Pennsylvania avenue .....               | I .....                                 | Asphalt, H. B. .....         |
| Do .....                                      | I .....                                 | K .....                                 | Granite .....                |
| Do .....                                      | K .....                                 | P .....                                 | Coal tar .....               |
| Do .....                                      | P .....                                 | Connecticut avenue .....                | do .....                     |
| Do .....                                      | R .....                                 | S .....                                 | Asphalt .....                |

*pairs to asphalt pavements to July 1,*

TABLE D.—*Descriptive list of street pavements and suburban roads*

| Street.           | From—                     | To—                       | Kind of pav<br>or roads |
|-------------------|---------------------------|---------------------------|-------------------------|
| Twentieth, NW     | S                         | Florida avenue            | Cobble                  |
| Do                | Baltimore                 | Cincinnati                | Asphalt blo             |
| Twenty-first, NW  | E                         | Virginia avenue           | Macadam                 |
| Do                | E                         | Pennsylvania avenue       | Coal tar                |
| Do                | Pennsylvania avenue       | K                         | Granite                 |
| Do                | K                         | Massachusetts avenue      | Coal tar                |
| Do                | Q                         | Hillyer place             | Asphalt blo             |
| Do                | Hillyer place             | R                         | Coal tar                |
| Do                | R                         | Florida avenue            | Asphalt, B.             |
| Twenty-second, NW | New York avenue           | Virginia avenue           | Macadam                 |
| Do                | Virginia avenue           | F                         | Asphalt, H.             |
| Do                | F                         | G                         | Asphalt                 |
| Do                | G                         | Pennsylvania avenue       | Coal tar                |
| Do                | K                         | M                         | Asphalt, H.             |
| Do                | M                         | O                         | Asphalt, B.             |
| Do                | O                         | P                         | do                      |
| Do                | P                         | Massachusetts avenue      | Asphalt, H.             |
| Do                | Massachusetts avenue      | R                         | do                      |
| Do                | Cincinnati                | Frankfort                 | Macadam                 |
| Twenty-third, NW  | Virginia avenue           | E                         | Asphalt, H.             |
| Do                | F                         | G                         | Cobble                  |
| Do                | G                         | I                         | Asphalt                 |
| Do                | I                         | Pennsylvania avenue       | do                      |
| Do                | K                         | L                         | Asphalt blo             |
| Do                | L                         | M                         | Asphalt, H.             |
| Twenty-fourth, NW | G                         | Pennsylvania avenue       | Cobble                  |
| Do                | Pennsylvania avenue       | M                         | Asphalt, H.             |
| Do                | Emporia                   | Frankfort                 | Macadam                 |
| Twenty-fifth, NW  | H                         | K                         | Asphalt, H.             |
| Do                | K                         | Pennsylvania avenue       | Asphalt, B.             |
| Do                | Pennsylvania avenue       | M                         | do                      |
| Do                | G                         | K                         | Cobble                  |
| Do                | K                         | Pennsylvania avenue       | Granite                 |
| Do                | Pennsylvania avenue       | M                         | Coal tar                |
| Do                | M                         | P                         | Macadam                 |
| Do                | NW                        | M                         | Asphalt                 |
| Do                | Dumbarton                 | P                         | Asphalt, B.             |
| Do                | P                         | Q                         | Macadam                 |
| Twenty-ninth, NW  | Q                         | U                         | Cobble                  |
| Do                | K                         | M                         | Granite                 |
| Do                | M                         | N                         | Asphalt                 |
| Do                | N                         | P                         | Asphalt, B.             |
| Do                | P                         | Q                         | Macadam                 |
| Do                | Q                         | U                         | Asphalt, H.             |
| Thirtieth, NW     | Virginia avenue           | K                         | Asphalt, H.             |
| Do                | K                         | Chesapeake and Ohio Canal | Cobble                  |
| Do                | Chesapeake and Ohio Canal | M                         | Asphalt, H.             |
| Do                | M                         | N                         | Granite                 |
| Do                | N                         | P                         | Asphalt, B.             |
| Do                | P                         | Q                         | Asphalt, B.             |
| Do                | Q                         | U                         | Granite                 |
| Thirty-first, NW  | K                         | M                         | Coal tar                |
| Do                | M                         | N                         | Granite                 |
| Do                | N                         | P                         | Asphalt                 |
| Do                | P                         | U                         | Asphalt, H.             |
| Do                | P                         | U                         | Granite                 |
| Thirty-second, NW | K                         | M                         | Cobble                  |
| Do                | M                         | P                         | Granite                 |
| Do                | M                         | N                         | do                      |
| Do                | P                         | V                         | Asphalt blo             |
| Do                | V                         | Thirty-fourth             | Cobble                  |



pairs to asphalt pavements to July 1, 1902—Continued.

| Square yards. | Price per square yard. | Original cost. | Resurfaced. |                       | Repairs—average annual cost per square yard. |                    |               | Remarks.                                   |
|---------------|------------------------|----------------|-------------|-----------------------|--|--------------------|---------------|--|
|               |                        |                | Year.       | Cost per square yard. | Prior to resurfacing.                        | Since resurfacing. | Current year. |  |
| 900           | \$0.70                 | \$630.00       |             |                       |  |                    |               | Permit work.                               |
| 845           | 1.77                   |                |             |                       |  |                    |               |  |
| 1,460         |                        |                |             |                       |  |                    |               |  |
| 6,101         | 3.20                   | 19,524.00      | { 1878      | \$1.57                |  | \$0.022            |               |  |
| 1,806         | 1.92                   | 2,816.00       |             | 1.57                  |  | .031               | \$0.004       |  |
| 10,892        | 3.20                   | 34,854.00      | 1891        | 1.21                  | \$0.019                                      |                    | .0046         |  |
| 956           |                        |                | 1902        |                       |  |                    |               |  |
| 988           | 1.98                   | 2,708.00       |             |                       | .052   |                    | .019          | Cobble base.                               |
| 1,483         | 2.00                   | 5,190.00       |             |                       | .008   |                    | .005          |  |
| 3,572         |                        |                |             |                       |  |                    |               |  |
| 884           | 1.76                   | 2,215.00       |             | 0                     | 0  | 0                  | 0             |  |
| 1,406         | 1.20                   | 3,532.00       |             | 0                     | 0  | 0                  | 0             |  |
| 4,641         | 3.20                   | 14,851.00      | { 1894      | .907                  | .02  | .05                | 0             |  |
| 2,852         | 2.25                   | 6,720.00       |             |                       | .015   |                    | .015          |  |
| 3,894         | 2.00                   |                | 1900        |                       | .005   |                    | .07           |  |
| 1,586         | 2.00                   | 4,862.00       |             |                       | .014   |                    | .066          | 4-inch base.<br>Do.                        |
| 2,668         | 1.94                   | 6,483.00       |             | 0                     | 0  | 0                  | 0             |  |
| 2,128         | 1.94                   | 4,500.00       |             | 0                     | 0  | 0                  | 0             |  |
| 4,050         |                        |                |             |                       |  |                    |               |  |
| 1,814         | 1.78                   | 4,206.00       |             | 0                     | 0  | 0                  | 0             | Cobble base.<br>In place of asphalt block. |
| 1,103         | .70                    |                |             |                       |  |                    |               |  |
| 2,530         | 1.72                   | 7,126.74       |             |                       |  |                    |               |  |
| 1,425         | 1.20                   | 3,347.00       |             | 0                     | 0  | 0                  | 0             |  |
| 587           | 2.10                   | 1,335.00       |             |                       |  |                    |               |  |
| 1,800         | 1.77                   | 4,309.00       |             | 0                     | 0  | 0                  | 0             |  |
| 5,192         | .70                    | 3,635.00       |             |                       |  |                    |               |  |
| 2,456         | 1.78                   | 6,418.00       |             | 0                     | 0  | 0                  | 0             | On asphalt block.                          |
| 1,200         |                        |                |             |                       |  |                    |               |  |
| 3,739         | 1.54                   | 9,129.00       |             | 0                     | 0  | 0                  | 0             |  |
| 1,163         | 2.00                   | 4,146.00       |             | 0                     | .008   | 0                  | .036          |  |
| 1,693         | 2.00                   | 5,972.00       |             | 0                     | .006   | 0                  | .012          |  |
| 5,042         | .70                    | 3,529.00       |             |                       |  |                    |               |  |
| 1,690         | 2.48                   | 4,206.00       |             |                       |  |                    |               |  |
| 919           | 2.67                   | 2,454.00       |             |                       | .023   |                    | .018          | { Cobble base.<br>4-inch base.             |
| 4,100         |                        | 5,887.00       |             |                       |  |                    |               |  |
| 2,879         | 1.10                   | 11,260.00      |             | 0                     | 0  | 0                  | 0             |  |
| 1,551         | 1.96                   |                |             | 0                     | 0  | 0                  | 0             |  |
| 1,474         |                        | 8,737.00       |             |                       |  |                    |               |  |
| 2,350         |                        |                |             |                       |  |                    |               |  |
| 2,919         |                        | 1,080.00       |             |                       |  |                    |               |  |
| 1,885         | 2.46                   | 4,727.00       |             |                       |  |                    |               | On asphalt block.                          |
| 2,966         |                        |                |             | 0                     | 0  | 0                  | 0             |  |
| 1,261         | 2.00                   | 3,381.00       |             | 0                     | 0  | 0                  | 0             |  |
| 2,300         |                        |                |             |                       |  |                    |               |  |
| 1,617         | .70                    | 1,132.00       |             |                       |  |                    |               | Do.  |
| 1,116         | 1.76                   | 2,651.00       |             | 0                     | 0  | 0                  | 0             |  |
| 2,121         | 2.15                   | 4,425.00       |             |                       |  |                    |               |  |
| 2,932         | 2.23                   | 7,981.00       |             |                       | .045   |                    | .076          |  |
| 1,282         | 2.00                   | 3,515.00       |             |                       | .002   |                    | .008          |  |
| 2,746         |                        | 10,204.00      |             |                       |  |                    |               |  |
| 1,300         | 1.98                   | 5,514.00       |             |                       | .011   |                    | 0             |  |
| 1,742         | 1.81                   | 3,562.00       |             |                       |  |                    |               | { Widening.<br>In place of cobble.         |
| 3,338         |                        | 4,312.00       |             |                       |  |                    |               |  |
| 1,862         | 2.26                   |                |             |                       | .009   |                    | .035          |  |
| 3,285         |                        |                |             |                       |  |                    |               |  |
| 3,000         |                        |                |             |                       |  |                    |               | Widening.<br>In place of cobble.           |
| 6,202         | 2.15                   | 13,005.00      |             |                       |  |                    |               |  |
| 561           |                        | 2,620.00       |             |                       |  |                    |               |  |
| 3,315         | 1.77                   | 8,039.96       |             |                       |  |                    |               |  |
| 1,825         |                        |                |             |                       |  |                    |               |  |

TABLE D.—*Descriptive list of street pavements and sub*

| Street.           | From—         | To—               | Kind of pav<br>or roadw |
|-------------------|---------------|-------------------|-------------------------|
| Thirty-second, NW | Thirty-fourth | Thirty-fifth      | Macadam                 |
| Do                | Thirty-fifth  | Tunlaw road       | Granite                 |
| Thirty-third, NW  | K             | M                 | Cobble                  |
| Do                | M             | N                 | Asphalt, B. B.          |
| Do                | N             | P                 | Asphalt, H. B.          |
| Do                | P             | Thirty-second     | Asphalt, B. B.          |
| Thirty-fourth, NW | M             | N                 | do                      |
| Do                | N             | P                 | do                      |
| Do                | P             | R                 | do                      |
| Do                | R             | Thirty-second     | Macadam                 |
| Thirty-fifth, NW  | M             | Prospect          | Cobble                  |
| Do                | Prospect      | N                 | Asphalt, B. B.          |
| Do                | N             | P                 | Coal tar                |
| Do                | P             | Q                 | do                      |
| Do                | Q             | U                 | Asphalt, B. B.          |
| Do                | U             | Tennallytown road | Asphalt, H. B.          |
| Thirty-sixth, NW  | Prospect      | O                 | Asphalt, B. B.          |
| Do                | O             | P                 | Asphalt, H. B.          |

NOTE.—H. B.=hydraulic base; B. B.=bituminous base.

pairs to asphalt pavements to July 1, 1902—Continued.

| Square yards. | Price per square yard. | Original cost. | Resurfaced. |                       | Repairs—Average annual cost per square yard. |                    |               | Remarks. |
|---------------|------------------------|----------------|-------------|-----------------------|--|--------------------|---------------|----------|
|               |                        |                | Year.       | Cost per square yard. | Prior to re-surfacing.                       | Since resurfacing. | Current year. |          |
| 3,500         |                        |                |             |                       |  |                    |               |          |
| 6,076         |                        | \$24,075.00    |             |                       |  |                    |               |          |
| 1,580         | \$2.00                 | 5,800.00       |             | 0                     | 0  | 0                  | 0             |          |
| 2,050         | 2.27                   | 4,745.00       |             |                       | \$0.075                                      |                    | \$0.08        |          |
| 4,675         | 2.00                   | 9,764.00       |             |                       | .0008  |                    |               |          |
| 1,660         | 2.00                   | 4,958.00       |             | 0                     | 0  | 0                  |               |          |
| 2,109         | 2.00                   | 7,927.00       |             | 0                     | 0  | 0                  | 0             |          |
| 2,264         | 2.00                   | 8,494.00       |             | 0                     | 0  | 0                  | 0             |          |
| 6,570         |                        | 8,984.00       |             |                       |  |                    |               |          |
| 850           |                        |                |             |                       |  |                    |               |          |
| 1,017         | 2.00                   | 3,346.00       |             | 0                     | 0  | 0                  | 0             |          |
| 2,929         | 1.97                   | 8,164.00       |             |                       | .01  |                    | .046          |          |
| 1,558         | 1.97                   | 5,805.00       | 1901        | \$1.86                | .066   |                    | 0             |          |
| 5,749         | 2.00                   | 18,563.00      |             |                       | .004   |                    | .036          |          |
| 6,009         | 2.25                   | 18,242.00      |             | 0                     | 0  | 0                  | .042          |          |
| 2,368         | 2.00                   | 7,994.00       |             | 0                     | 0  | 0                  | 0             |          |
| 707           | 1.78                   | 2,063.00       |             | 0                     | 0  | 0                  | 0             |          |



Streets and avenues for 1901.

WEST SECTION.

| Street | Straight<br>curb<br>reset. | Circular<br>curb<br>reset. | Straight<br>curb<br>reset. | Name of contractor.       |
|--------|----------------------------|----------------------------|----------------------------|---------------------------|
| 1st    | 94.44                      |                            | 689.                       | Warner-Quinlan Paving Co. |
| 2nd    | 797.72                     | 28.25                      | 825.                       | Do.                       |
| 3rd    | 273.35                     |                            | 1,505.                     | Do.                       |
| 4th    | 86.71                      | 60.74                      | 1,523.                     | Do.                       |
| 5th    | 1,074.22                   | 271.41                     | 889.                       | Do.                       |
| 6th    | 221.22                     |                            | 294.                       | Do.                       |

WEST SECTION.

|          |      |                           |
|----------|------|---------------------------|
| 1,426.96 | 214. | Warner-Quinlan Paving Co. |
| 2,176.42 | 414  | Do.                       |

EAST SECTION.

|    |          |       |        |                                       |
|----|----------|-------|--------|---------------------------------------|
| 10 | 192.67   |       |        | Warner-Quinlan Paving Co.             |
|    | 1,036.62 | 78.70 | 702.   | Do.                                   |
|    |          | 23.15 | 407.   | Do.                                   |
|    | 2,280.90 |       | 283.   | Washington Asphalt Block and Tile Co. |
|    | 14.36    |       | 1,181. | Do.                                   |
|    |          |       |        | Cranford Paving Co.                   |

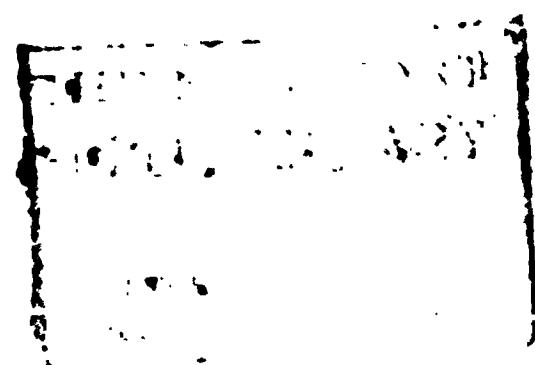
EAST SECTION.

|  |        |       |        |                                       |
|--|--------|-------|--------|---------------------------------------|
|  | 930.30 | 56.96 | 1,560. | W. F. Brenizer.                       |
|  |        |       |        | Warner-Quinlan Paving Co.             |
|  | 206.59 |       | 2,496. | Do.                                   |
|  |        |       |        | Washington Asphalt Block and Tile Co. |
|  |        |       |        | Cranford Paving Co.                   |
|  |        |       |        | Matthew Myers.                        |

EAST SECTION.

|    |          |       |      |                                       |
|----|----------|-------|------|---------------------------------------|
| 20 | 2,811.62 | 32.96 | 318. | Washington Asphalt Block and Tile Co. |
|----|----------|-------|------|---------------------------------------|

End of asphalt block pavement.  
1901.



roads and suburban s

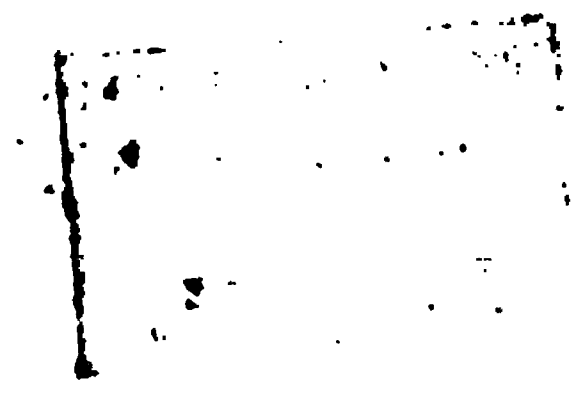
work.

| b-<br>-<br>l. | Old<br>curb re-<br>moved. | Straight<br>curb<br>reset. | Circular<br>curb<br>reset. | Total cost<br>of work. | Name of contractor.                       |
|---------------|---------------------------|----------------------------|----------------------------|------------------------|---|
|               | Lin. ft.                  | Lin. ft.                   | Lin. ft.                   |                        |   |
| 31            | 5.70                      | 5.86                       | -----                      | 32,584.05              | Washington Asphalt Block and Tile Co.     |
| 0             | 497.50                    | 34.64                      | -----                      | 4,283.32               | Do.                                       |
|               |                           |                            |                            | 9,689.32               | Killeen & Ball.                           |
| 34            | 60                        | 15.96                      | 9.49                       | 3,164.22               | Warner-Quinlan Paving Co.                 |
| 2             | 30                        | -----                      | -----                      | 2,173.66               | Carmody & Hough.                          |
|               |                           | 18.80                      | -----                      | 8,620.89               | Washington Asphalt Block and Tile Co.     |
|               |                           |                            |                            | -----                  | Warner-Quinlan Paving Co.                 |
|               |                           |                            |                            | 2,868.81               | Carmody & Hough.                          |
|               | 13                        | 27.75                      | -----                      | 5,730.28               | Warner-Quinlan Paving Co.                 |
|               |                           |                            |                            | 2,825.54               | Carmody & Hough.                          |
|               |                           |                            |                            | 9,578.57               | G. B. Mullen.                             |
|               |                           | 295.60                     | -----                      | 4,741.13               | Warner-Quinlan Paving Co.                 |
|               |                           |                            |                            | 4,931.32               | Carmody & Hough.                          |
|               |                           |                            |                            | 1,929.41               | Huidekoper-Blundon, Talty, and day labor. |
|               |                           |                            |                            | 4,791.69               | W. H. H. Allen.                           |
|               |                           |                            |                            | 1,916.61               | Carmody & Hough.                          |
|               |                           |                            |                            | 4,466.02               | Andrew Gleason.                           |
|               |                           |                            |                            | 985.74                 |   |
| 40            | 1,378                     | 6.55                       | 9.42                       | 9,615.39               | Colburn Paving Co.                        |
| 0             |                           |                            |                            | -----                  | Warner-Quinlan Paving Co                  |
|               |                           |                            |                            | 8,810.98               | M. F. Talty.                              |
|               |                           | 423.50                     | -----                      | 2,875.57               | Carmody & Hough.                          |
|               |                           |                            |                            | -----                  | John Jacoby.                              |
|               |                           |                            |                            | 8,778.10               | W. L. Swormstedt.                         |
|               |                           |                            |                            | 4,724.27               | Carmody & Hough.                          |
|               |                           | 2,154.74                   | -----                      | 20,131.57              | Warner-Quinlan Paving Co.                 |

c \$80 for inspect included.

Paving roadways und

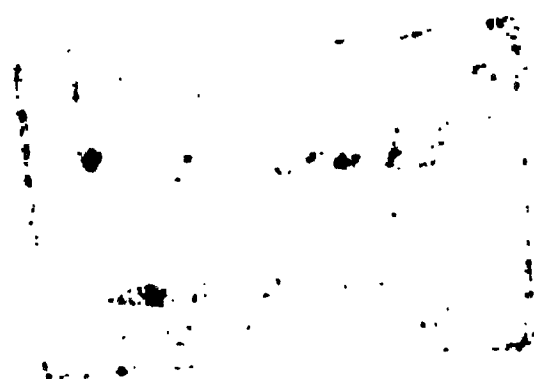
|       |           |                                       |
|-------|-----------|---------------------------------------|
| ----- | 19,155.29 | Washington Asphalt Block and Tile Co. |
|-------|-----------|---------------------------------------|





unford Paving Company under

| of | Extra<br>work. | Cost of re-<br>pairs. | Old c<br>re<br>mov | Remarks.                                   |
|----|----------------|-----------------------|--------------------|--|
|    |                | \$183.78              | <i>Lin.</i>        |  |
|    | \$31.02        | 5,161.70              | 250                | Roadway changed.                           |
|    | 10.81          | 3,525.84              | 200                |  |
|    | 49.11          | 4,699.11              |                    |  |
|    |                | 6,479.76              |                    | Space formerly occupied by railroad paved. |
|    |                | 17,208.14             | 150                | Do.  |
|    |                | 3,169.40              |                    |  |
|    |                | 4,508.74              | 25                 |  |
|    |                | 2,680.89              |                    |  |
|    |                | 6,979.35              |                    |  |
|    |                | 748.39                |                    |  |
|    |                | 1,020.01              |                    |  |
|    |                | 4,296.86              |                    |  |
|    |                | 1,511.88              | 25                 |  |
|    |                | 3,368.30              |                    |  |
|    |                | 4,405.43              |                    |  |
|    | 20.24          | 3,468.16              | 45                 |  |
|    |                | 1,251.29              |                    |  |
|    |                | 1,698.51              | 30                 |  |
|    |                | 1,635.22              | 40                 |  |
|    |                | 1,676.50              | 9                  |  |
|    |                | 780.34                | 50                 | Connecting with previous pavements.        |
|    |                | 4,170.68              | 15                 |  |
|    |                | 3,834.46              |                    |  |
|    | 93.92          | 3,746.33              | 45                 | Granite block pavement removed.            |
|    |                | 239.51                | 190                | Extension of pavement.                     |



Work of street paving and repairs chargeable to street railroads for year ended June 30, 1962.

| Locality.               | Amount.  | Locality.                          | Amount.   |
|-------------------------|----------|------------------------------------|-----------|
| ROPOLITAN.              |          | COLUMBIA—continued.                |           |
| street, Thirteenth to   | \$267.43 | Minor repair:                      |           |
|                         | 2,828.19 | Massachusetts avenue NW.,          | \$105.54  |
| V., K to L              | 1.82     | Fourth to Seventh                  | 28.67     |
| V., P to Florida avenue | 25.93    | H, NE., First to Fifteenth         | 22.42     |
| V., T to K              | 7.66     | H, NW., First to Third             | 43.85     |
| Thirteenth to Vermont   | .42      | New York avenue NW., Tenth         | 4.55      |
| half, SW., Missouri     |          | to Thirteenth                      | 7.28      |
| o Maryland avenue       | 104.22   | Ninth and K, NW                    | 4.55      |
| it avenue and S, NW     | 1.55     | H, NE., North Capitol to First     | 7.28      |
| and O, NW               | 1.37     | New York avenue, Tenth to          | 4.55      |
| h, NW., N to P          | 5.46     | Twelfth                            |           |
| n, Twenty-eighth to     | 1.36     | Total                              | 1,449.97  |
| second                  |          |                                    |           |
| V., G to New York ave-  | 20.93    | ANACOSTIA AND POTOMAC RIVER.       |           |
| F, NW                   | 1.82     | Paving space occupied by aban-     |           |
| d Indiana avenue NW     | 21.84    | doned tracks:                      |           |
| V., Massachusetts ave-  | 35.49    | Maryland avenue SW., Third to      | 1,783.48  |
| h, NW., F to New York   | 10.01    | Four-and-a-half                    | 7,457.01  |
| it avenue, K to Dupont  | 11.50    | O, NW., Fourth to Eleventh         | 7,213.09  |
| V., E to K              | 8.19     | P, NW., Fourth to Eleventh         | 10,165.81 |
| avenue and D, NW        | 6.87     | Fourth, NW., G to K                | 860.23    |
| , East Capitol to B     | 18.20    | First, SW., and Maryland avenue    | 887.10    |
| inth to Fourteenth      | 18.20    | Pennsylvania avenue SE.,           |           |
| fteenth to Seventeenth  | 38.22    | Twelfth to Thirteenth              |           |
| New York avenue to      | 26.39    | Minor repairs:                     |           |
| th, NW., I to K         | 1.80     | Eleventh and I, NW                 | 9.88      |
| it avenue, K to M       | 40.00    | Elm, Third to Fourth, and Third    | 35.46     |
| h, NW., N to O          | 2.73     | to Spruce                          |           |
|                         | 3,507.10 | Fourteenth, NW., Pennsylvania      | 6.87      |
|                         |          | avenue to B                        | 2.73      |
| VAL TRACTION.           |          | E, NW., Ninth to Eleventh          | 4.55      |
| d Maryland avenue       | 421.59   | First, Pennsylvania avenue to      | 3.64      |
| avenue SE., between     | 15.78    | Maryland avenue                    | 6.87      |
| Thirteenth              |          | Fourteenth and Pennsylvania        | 9.10      |
| Seventeenth to Eight-   | 8.64     | avenue NW                          | 14.27     |
| bridge to Thirty-first  | 50.32    | Eleventh and H and Eleventh        |           |
| xth, NW., Pennsylva-    | 10.30    | and I, NW                          |           |
| ue to M                 | 1.82     | Eleventh and G and Eleventh        |           |
| V., Pennsylvania ave-   | 7.28     | and Massachusetts avenue           |           |
| laryland avenue         | 12.74    | Fifth and G, SE                    |           |
| and V, NW               | 38.22    | Total                              | 27,909.09 |
| nia avenue NW., Sev-    | .91      |                                    |           |
| ifteenth                | 4.55     | CITY AND SUBURBAN.                 |           |
| nia avenue NW., Fif-    | 10.92    | North Capitol, H to I              | 150.59    |
| Eighteenth              | 7.28     | North Capitol, I to K              | 144.45    |
| and Rock Creek bridge   | 37.23    | C, NW., First to New Jersey avenue | 42.35     |
| h, NW., Howard to       |          | Minor repairs:                     |           |
| avenue                  | 627.58   | G, NW., Second to Fourth           | 1.36      |
| omas Circle             |          | Sixth, NW., and Pennsylvania       | 18.49     |
| ashington Circle        |          | avenue                             | 10.92     |
| nia avenue NW., Twen-   |          | New Jersey avenue and G, NW        | 2.73      |
| Twenty-sixth            |          | Fifth and K and Fifth and L, NW    | 2.73      |
|                         |          | Florida avenue and Eckington       | 2.73      |
|                         |          | place                              | 1.41      |
|                         |          | R, NE., Second to Third            | 93.40     |
|                         |          | G, NW., North Capitol to New       | 5.46      |
|                         |          | York avenue                        | 7.28      |
|                         |          | D, NE., Maryland avenue to Ninth   | 3.64      |
|                         |          | G, NW., Second to Fourth           | .91       |
|                         |          | North Capitol and I                | 10.92     |
|                         |          | G, NW., Seventh to Ninth           | 21.84     |
|                         |          | Fifth and Massachusetts avenue     | 8.64      |
|                         |          | North Capitol and K and North      |           |
|                         |          | Capitol and New York avenue        |           |
|                         |          | Tenth and G, NW                    |           |
|                         |          | Total                              | 522.12    |
| AND TENNALLYTOWN.       |          |                                    |           |
| and M, NW               | 3.64     |                                    |           |
| COLUMBIA.               |          |                                    |           |
| Maryland avenue, Fif-   | 1,233.61 |                                    |           |
| H                       |          |                                    |           |



Work done by day labor under appropriation of "Current repairs to  
ts, avenues, and alleys," from July 1, 1901, to June 30, 1902.

|             |              |             |
|-------------|--------------|-------------|
| laid        | square yards | 2,575       |
| relaid      | do           | 21,984      |
| aved        | do           | 988.83      |
| epaved      | do           | 2,282       |
| repaved     | do           | 1,569       |
| aved        | do           | 878.50      |
| repaved     | do           | 2,783.25    |
|             | do           | 10,222      |
|             | linear feet  | 128.63      |
|             | do           | 1,987.35    |
|             | do           | 682.50      |
|             | do           | 4,012       |
|             | square yards | 2,605       |
| walk relaid | do           | 1,897       |
| k           | do           | 827.57      |
|             | cubic yards  | 12,964.50   |
|             | square yards | 5,816       |
|             |              | <hr/>       |
|             |              | \$23,166.62 |
|             |              | <hr/>       |
|             |              | 1,625.20    |
|             |              | <hr/>       |
|             |              | 29,791.82   |



*r permit.*

[illegible]







TABLE I.—Regular

| Job No. | Location.   | For whom done.           | Grading. | Cement sidewalk. | Curbs and set. |
|---------|---|--------------------------|----------|------------------|----------------|
|         |   |                          | Cu. yds. | Sq. yds.         | Lin ft.        |
| 2106    | South side Cincinnati street, lots 81 to 38, block 3, Cliffbourne.                  | Kennedy & Davis          |          | 151.95           |                |
| 2107    | 8134 to 3150 Q street NW  | B. W. Walker & Son       |          | 143.19           | 15             |
| 2108    | 921 Pennsylvania avenue NW  | B. H. Warner & Co        |          | 66.39            |                |
| 2109    | 1719 N street NW  | Chas. C. Langley         |          | 48.87            |                |
| 2110    | 1446 Huntington place   | Margaret L. Marsh        |          | 17.37            |                |
| 2111    | 1448 Huntington place   | Sarah E. Peck            |          | 15.08            |                |
| 2112    | 1450 Huntington place   | Chas. Loucks             |          | 17.37            |                |
| 2113    | Post-office building, Park street, Mount Pleasant.                                  | C. M. Campbell           |          | 18.27            | 30             |
| 2114    | 1530 Fourteenth street NW   | Geo. W. Parker           |          | 27.16            | 34             |
| 2115    | 642, 644, 646, and 648 B street SE  | P. Maloney               | 100      |                  |                |
| 2116    | Liberty Baptist Church, south side E street NW, between Seventeenth and Eighteenth. | Rev. I. Toliver          |          | 51.81            | 45             |
| 2118    | 1701 K street NW  | Thos. M. Seeds           |          | 278.82           | 30             |
| 2119    | 1312 Q street NW  | Zach. M. Knott & Co      |          | 31.73            |                |
| 2120    | Cincinnati street NW, between Nineteenth and Twentieth.                             | E. J. Stellwagen         |          | 375.65           |                |
| 2121    | Alley square 76, between C and D, Second and Third streets NE.                      | J. J. Healy              | 172      |                  | 2              |
| 2122    | 1910 E street NW  | Woodruff Manfg. Co       | 5        |                  | 2              |
| 2123    | North side V street NE, between Third and Fourth.                                   | L. J. Woolen             |          |                  |                |
| 2127    | South side V street, between North Capitol and Lincoln avenue.                      | Moore & Barbour          | 8,000    |                  |                |
| 2131    | North side L street, between Twelfth and Thirteenth NW.                             | Mrs. C. G. Caughey       |          | 51.78            | 5              |
| 2132    | East side Connecticut avenue, north of Randolph street.                             | E. J. Stellwagen         | 153      | 516.40           |                |
| 2133    | Both sides Randolph street, between Connecticut avenue and Pierce Mill road.        | do                       | 251      | 838.66           |                |
| 2134    | Both sides Quincy street, between Twenty-eighth street and Connecticut avenue.      | do                       | 3,332    | 1,076.40         |                |
| 2138    | 744 to 786 Harvard street   | E. E. Gaddis             |          | 267.28           |                |
| 2139    | Both sides Baltimore and Trumbull streets.  | M. F. Talty              | 1,468    |                  |                |
| 2141    | Lots 52, 53, 54, 55 Lanier Heights  | Guy H. Johnson           | 90       | 142.73           |                |
| 2142    | East side North Capitol street, between Albany and Detroit streets.                 | Joseph Paul              |          | 557.10           |                |
| 2143    | 1650 to 1658 Sheridan avenue NW   | C. W. King, jr           |          | 65.65            |                |
| 2144    | 815 Seventh street SW   | W. T. Smith              |          | 36.75            | 2              |
| 2145    | Northeast corner Twenty-ninth and Q streets NW.                                     | Emma J. Nourse           |          | 121.09           |                |
| 2146    | South side Ohio avenue, between Thirteenth and Thirteenth-and-a-half streets.       | Barber & Ross            | 3        |                  |                |
| 2147    | Eighteenth and Riggs streets NW   | John N. Nolen            |          | 219.16           |                |
| 2148    | Southeast corner Eighth and I streets NW.   | Saml. Bensinger          | 8        |                  |                |
| 2149    | 1443 and 1454 to 1466 Sheridan street   | C. W. King, jr           |          | 126.19           |                |
| 2150    | 2026 R street NW  | E. H. Schenck            |          | 17.73            |                |
| 2151    | 2238 Q street NW  | R. A. Chester            |          | 32.01            |                |
| 2152    | 2024 R street NW  | E. Quigley Smith         |          | 20.56            |                |
| 2153    | 1109 F street NW  | R. W. Henderson          |          | 32.14            | 9              |
| 2154    | 2001 Kalorama avenue  | F. G. Eiker              |          | 2.01             |                |
| 2155    | South side Highland avenue, Cleveland Park.   | H. A. Gillan             | 50       | 45.26            |                |
| 2156    | 217 F street NW   | Galloway & Son           |          | 54.25            | 3              |
| 2157    | Lot 17, S. P. Brown's subdivision   | Danl. Paul               | 8        |                  |                |
| 2158    | 1118 and 1124 Fifth street NW   | S. E. & J. E. Rosenthal. |          | 40.79            |                |
| 2159    | 8128-3130 Fourteenth street NW  | James F. Barbour         |          | 52.02            |                |
| 2160    | 3130 Fourteenth street NW   | do                       |          |                  |                |
| 2161    | 8401-3403 S street NW   | Ernest Dahle             |          | 45.40            | 16             |

**it—Continued.**

[illegible]



**nit—Continued.**

[illegible]

TABLE I.—Regular

| Job No. | Location.  | For whom done.           | Grading. | Cement sidewalk. | Curb reset. |
|---------|--|--------------------------|----------|------------------|-------------|
|         |  |                          | Cu. yds. | Sq. yds.         | Lin. ft.    |
| 2216    | Wisconsin avenue, lots 282, 283, and 284, square 1800.                             | Wm. A. Custard.....      |          | 78.98            | 65          |
| 2217    | Wisconsin avenue, lots 284 and 285, square 1800.                                   | John W. Begley.....      |          | 50.79            | 45          |
| 2219    | 606 Tenth street SW .....  | T. P. Stephenson.....    |          | 14.30            | 11          |
| 2220    | 608 Tenth street SW .....  | E. B. Cranford.....      |          | 16.62            | 11          |
| 2221    | 612 Tenth street SW .....  | W. A. Church.....        |          | 15.23            | 11          |
| 2222    | 616 Tenth street SW .....  | M. T. McKenney.....      |          | 14.15            | 22.00       |
| 2224    | North side T street NE, from North Capitol street to Lincoln avenue.               | Moore & Barbour....      | 150      | 207.49           | 11          |
| 2225    | West side South Dakota avenue between Twenty-sixth street and Rhode Island avenue. | John M. Henderson..      |          | 276.12           | 7.00        |
| 2226    | Northeast corner Trenton avenue and Eighth street.                                 | Herbert Lewis .....      |          | 63.20            | 6.20        |
| 2227    | 610 Tenth street SW .....  | Wm. Gibson.....          |          | 15.04            | 11          |
| 2228    | 614 Tenth street SW .....  | James O. R. Kuhn....     |          | 16.42            | 11          |
| 2229    | 1426 Welling place .....   | T. C. Noyes.....         |          | 15.73            |             |
| 2230    | 1428 Welling place .....   | I. L. Rogers.....        |          | 17.60            |             |
| 2231    | 1430 Welling place .....   | I. T. Hendricks.....     |          | 16.98            |             |
| 2232    | 3153 to 3157 Q street NW .....   | Cranford Paving Co. .... |          | 80.00            | 80.00       |
| 2233    | North side T street, between Rhode Island avenue and North Capitol street.         | Moore & Barbour....      |          | 548.40           | 22.00       |
|         | Total .....  |                          | 15,920   | 16,764.75        | 2,450.00    |

nit—Continued.

| Curb set. |          |         | Vitri-<br>fied<br>block<br>paved | As-<br>phalt<br>block<br>paved | Cob-<br>ble. | Flag<br>laid. | Flag<br>re-<br>laid. | Brick<br>side-<br>walk<br>paved. | Brick<br>side-<br>walk<br>re-<br>paved. | Gran-<br>ite<br>block. | As-<br>phalt<br>tile<br>laid. | Cost.     |
|-----------|----------|---------|----------------------------------|--------------------------------|--------------|---------------|----------------------|----------------------------------|---|------------------------|-------------------------------|-----------|
| 20.       | 8 by 8.  | Old     |                                  |                                |              |               |                      |                                  |   |                        |                               |           |
| .ft.      | Lin. ft  | Lin. ft | Sq. yds                          | Sq. yds                        | Sq. yds      | Lin. ft       | Lin. ft              | Sq. yds                          | Sq. yds                                 | Sq. yds.               | Sq. yds                       |           |
|           |          |         |                                  |                                |              |               |                      |                                  |   |                        |                               | \$85.88   |
|           |          |         |                                  |                                |              |               |                      |                                  |   |                        |                               | 57.20     |
|           |          | 2.50    |                                  |                                |              |               |                      |                                  |   |                        |                               | 16.43     |
|           |          | 2.50    |                                  |                                |              |               |                      |                                  |   |                        |                               | 18.59     |
|           |          | 2.50    |                                  |                                |              |               |                      |                                  |   |                        |                               | 17.28     |
|           |          | 2.50    |                                  |                                |              |               |                      |                                  |   |                        |                               | 18.13     |
| 52        |          |         |                                  |                                |              |               |                      |                                  |   |                        |                               | 638.12    |
|           |          | 6.10    |                                  |                                |              |               |                      |                                  |   |                        |                               | 313.03    |
|           |          |         |                                  |                                |              |               |                      |                                  |   |                        |                               |           |
| 40        |          |         |                                  |                                |              |               |                      |                                  |   |                        |                               | 132.89    |
|           |          | 2.50    |                                  |                                |              |               |                      |                                  |   |                        |                               | 17.13     |
|           |          | 2.50    |                                  |                                |              |               |                      |                                  |   |                        |                               | 18.41     |
|           |          |         |                                  |                                |              |               |                      |                                  |   |                        |                               | 14.70     |
|           |          |         |                                  |                                |              |               |                      |                                  |   |                        |                               | 16.53     |
|           |          |         |                                  |                                |              |               |                      |                                  |   |                        |                               | 15.37     |
|           |          |         |                                  |                                |              |               |                      |                                  |   |                        |                               | 89.43     |
| 80        |          |         |                                  |                                |              |               |                      |                                  |   |                        |                               | 1,516.42  |
|           |          |         |                                  |                                |              |               |                      |                                  |   |                        |                               |           |
| 12        | 6,107.79 | 321.80  | 753.81                           | 150                            | 40.50        | 210           | 50                   | 1,015.50                         | 49                                      | 105                    | 104                           | 35,893.85 |

TABLE K—

Appropriation Account

| Job No. | Location   | Grading  | Cement sidewalk | Curb reset | Curb set. |          |          |
|---------|--|----------|-----------------|------------|-----------|----------|----------|
|         |  |          |                 |            | 6 by 30.  | 8 by 8.  | Oil      |
|         |  | Cu. yds. | Sq. yds.        | Lin. ft.   | Lin. ft.  | Lin. ft. | Lin. ft. |
| 301     | Alleys in square 25A between Pennsylvania avenue and G. Fourteenth and Fifteenth streets | 86       |                 |            |           |          |          |
| 302     | East side Fourth street NE. from South avenue south                                      | 3        |                 |            |           |          |          |
| 303     | North side D street NE. between Tennessee avenue and alley west                          |          | 229.82          |            | 27.90     |          |          |
| 304     | East side Fourteenth street between D and Duran streets NE.                              | 90       | 229.08          |            | 215.93    |          |          |
| 305     | Alleys in square 15L north of Willard street   | 730      |                 | 30         |           |          |          |
| 306     | South side Erie street from Fifth street to Brightwood avenue                            | 3,120    | 1,454.28        |            |           |          | 7        |
| 307     | South side F street NE. from Fourteenth street east                                      |          | 156.90          |            | 134       |          |          |
| 308     | Both sides Twentieth street between Woodley road and south property line Cliff farm      |          |                 |            |           |          |          |
| 309     | South side Bennings road from Seventeenth to Nineteenth street                           | 45       | 66.77           |            |           |          |          |
| 310     | North side D street NW. between Eighth and Ninth streets                                 |          | 140.84          | 3          |           | 96.10    |          |
| 311     | West side Thirteenth street NW. between C and D streets                                  |          | 457.02          | 57         | 364.60    |          |          |
| 312     | East side Eighth street between K and L streets NW                                       |          | 462.69          | 384        |           | 10.85    | 9        |
| 313     | North side R street between Thirteenth and Fourteenth streets NW                         |          | 368.54          | 7          |           | 626.14   |          |
| 314     | East side School street between Park and south property line S. P. Brown's subdivision   |          | 166.47          |            | 312.20    |          |          |
| 315     | Alleys north and south block 21. Howard University                                       | 224      |                 | 25         |           |          |          |
| 316     | West side Fourteenth street SE. from E to G  |          | 324.73          | 40.90      | 514       |          |          |
| 317     | Alleys in square 183   | 216      |                 |            |           |          |          |
| 318     | Alley square 342 between Massachusetts avenue and south line of 8-foot alley             | 86       |                 |            |           |          |          |
| 319     | Alleys block 7. Bloomingdale   | 874.50   |                 |            |           |          |          |
| 320     | Both sides Genesee street between Piney Branch road and Brightwood avenue                | 240      | 1,141.20        |            |           |          |          |
| 321     | North side I street NW. between Sixth and Seventh streets                                |          | 224.45          | 75         | 9.42      |          | 18       |
| 322     | North side M street NW. between Twenty-third and Twenty-fourth streets                   |          | 379.06          |            |           | 339.02   | 8        |
| 323     | Both sides K street NW. between Fourth and Fifth streets                                 |          | 2,131.85        |            | 113.40    |          | 4        |
| 324     | North side G street NW. between Tenth and Eleventh streets                               |          | 111.17          |            |           | 51.60    |          |
| 325     | West side Eighth street SE. between E and G streets                                      |          | 787.76          |            |           |          |          |
| 326     | South side Pennsylvania avenue NW. between Third and Four-and-a-half streets             |          | 1,281.40        | 461        |           | 59.38    |          |
| 327     | North side Galena street between Sixth and Seventh streets                               |          | 396.57          |            |           |          |          |
| 328     | East side Sixth street between Emporia and Galena streets                                | 66       | 443.15          |            |           |          |          |
| 329     | South side Sheridan street between Brightwood and Sherman avenues                        |          | 532.10          | 16         |           |          | 15       |
| 330     | North side M street between Fifth and Sixth streets NW                                   | 284.72   |                 | 209        |           |          | 26       |













TABLE K.—Assessment

| Job No. | Location.   | Grading.        | Cement sidewalk. | Curb reset.     | Curb set.       |                 |                 |
|---------|---|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|
|         |   |                 |                  |                 | 6 by 20.        | 8 by 8.         | Old.            |
|         |   | <i>Cu. yds.</i> | <i>Sq. yds.</i>  | <i>Lin. ft.</i> | <i>Lin. ft.</i> | <i>Lin. ft.</i> | <i>Lin. ft.</i> |
| 8119    | Both sides F street NE., from Maryland avenue to Thirteenth street .....                    |                 |                  |                 | 850             |                 |                 |
| 8120    | Both sides F street NE., from Fourteenth to Fifteenth street .....                          |                 |                  |                 | 631             |                 |                 |
| 8121    | Both sides Columbia road and Steuben street, from Sherman avenue to Thirteenth street ..... |                 |                  |                 |                 | 1,997.37        |                 |
| 8123    | South side B street NE., from Second to Third street .....                                  |                 |                  |                 |                 | 341.22          |                 |
| 8124    | North side S street NW., between Phelps place and Massachusetts avenue .....                |                 | 1,708.84         | 68              |                 | 747.55          |                 |
| 8125    | South side T street NW., between North Capitol and First streets .....                      |                 | 807.67           |                 |                 |                 |                 |
| 8126    | North side Kramer street NE., between Sixteenth and Seventeenth streets .....               |                 | 478.11           |                 | 614.22          |                 |                 |
| 8127    | North side B street NE., between First and Second streets .....                             |                 | 628.81           | 627             | 6.28            |                 |                 |
| 8128    | North side Hartford street NE., between Twelfth and Thirteenth streets .....                |                 | 310.20           |                 |                 |                 |                 |
| 8130    | East side Tenth street, between Providence and Fort streets .....                           |                 | 212.99           |                 |                 |                 |                 |
| 8133    | North side D street SE., from Fifteenth to Sixteenth street .....                           |                 | 159.71           |                 | 204.20          |                 |                 |
| 8136    | Both sides Ninth street, from Erie to Flint street, Brightwood Park .....                   | 299             | 461.93           |                 |                 |                 | 12.00           |
| 8137    | Alley, north half square 856, between Callan and L, Sixth and Seventh streets NE .....      | 585             |                  | 86.26           |                 |                 |                 |
| 8139    | North side Providence street, from Fourteenth to Fifteenth street, Brookland .....          |                 | 347.23           |                 |                 |                 |                 |
| 8140    | East side Adams Mill road north to Lanier avenue .....                                      |                 |                  |                 |                 | 228.32          |                 |
| 8141    | East side Tenth street, between Frankfort and Hartford streets .....                        |                 | 119.99           |                 |                 |                 |                 |
| 8143    | Both sides Whitney avenue, from Brightwood avenue to Warder avenue .....                    | 350             | 1,555.78         | 8               | 1,893.90        |                 |                 |
| 8144    | Both sides alleys, square 216 .....   | 198             |                  | 54              | 9.42            |                 |                 |
| 8147    | Both sides B street NE., from Third to Fourth street .....                                  |                 |                  |                 |                 | 816.73          |                 |
| 8148    | Both sides Cathedral avenue .....   | 2,114           |                  |                 | 7,549           |                 |                 |
| 8149    | South side Dover street, from Twelfth street to east line Metropolis View .....             | 104             | 279.53           |                 | 409.90          |                 |                 |
| 8150    | 15-foot alley in square 195 .....   |                 |                  | 12              | 17              |                 |                 |
| 8152    | North side Dover street, from Twelfth to Thirteenth street .....                            | 899             | 410.94           |                 |                 |                 |                 |
| 8153    | West side Twelfth street, from Dover to Concord street .....                                |                 | 218.37           |                 | 312.44          |                 |                 |
| 8154    | Both sides Detroit street, from Twelfth to Thirteenth street .....                          | 9,000           |                  |                 |                 |                 |                 |
| 8155    | South side Chicago street, from First to east line lot 76, square 720 .....                 |                 | 303.90           | 371             | 9.42            |                 |                 |
| 8156    | Both sides N street NW., from Fifth to Sixth street .....                                   |                 | 554.37           | 499             | 28.26           |                 | 13.60           |
| 8157    | Both sides Nineteenth street NW., from R street to Florida avenue .....                     |                 |                  |                 |                 | 2,074.70        |                 |
| 8158    | North side M street NW., from Tenth to Eleventh street .....                                |                 | 201.89           |                 |                 |                 |                 |
| 8159    | North side M street NW., from Ninth to Tenth street .....                                   |                 | 427.12           | 390             |                 |                 | 70              |









TABLE K.—Assessment

| Job No. | Location.   | Grading.        | Cement side-walk. | Curb reset.     | Curb set.       |                 |                 |
|---------|---|-----------------|-------------------|-----------------|-----------------|-----------------|-----------------|
|         |   |                 |                   |                 | 6 by 20.        | 8 by 8.         | Old.            |
|         |   | <i>Cu. yds.</i> | <i>Sq. yds.</i>   | <i>Lin. ft.</i> | <i>Lin. ft.</i> | <i>Lin. ft.</i> | <i>Lin. ft.</i> |
| 3194    | North side P street NW., between Ninth and Eleventh streets.....                        |                 | 665.10            |                 |                 |                 | 13              |
| 3195    | East side Tenth street, from U to Florida avenue.....                                   |                 | 906.49            |                 |                 |                 |                 |
| 3198    | North side Meridian avenue NW., between Center street and east end Meridian avenue..... | 32              | 216.21            |                 |                 | 360.20          | 8               |
| 3199    | Both sides Gales street NE., between Fifteenth and Sixteenth streets.....               | 1,808.69        |                   |                 |                 |                 |                 |
| 3200    | South side P street NW., between Seventh street and alley west of Seventh street.....   |                 | 189.74            | 21              |                 |                 |                 |
| 3201    | South side East Capitol street, between Thirteenth and Fourteenth streets.....          |                 | 565.16            | 15              |                 | 701             |                 |
| 3202    | West side Tennessee avenue NE., from F to Fifteenth street.....                         |                 |                   | 18.52           | 189.94          |                 |                 |
| 3203    | North side Bismarck street NE., between Brightwood and Sherman avenues.....             |                 | 666.17            |                 |                 | 716.20          |                 |
| 3204    | Alleys in square 962, between Tenth and Eleventh, D and E streets.....                  | 1,188           |                   | 112             | 18.84           |                 |                 |
| 3205    | Alleys in square 1055, between Fourteenth and Fifteenth, B and C streets NE.....        | 1,055           |                   |                 |                 |                 | 66.84           |
| 3206    | 15 and 30 foot alleys in square 761.....  | 193             |                   |                 |                 |                 |                 |
| 3210    | South side Columbia road NW., between Eleventh and Thirteenth streets.....              | 116             | 98.09             |                 |                 |                 |                 |
| 3211    | South side Kramer street NE., from Sixteenth to Seventeenth street.....                 |                 | 250.81            |                 | 613.40          |                 |                 |
| 3212    | Both sides Morton place NE., from Sixth to Seventh street.....                          | 488             |                   |                 |                 |                 |                 |
| 3213    | Both sides Orleans place NE., from Sixth to Seventh street.....                         | 1,557           |                   |                 |                 |                 |                 |
| 3215    | East side Columbia road, lot 7, Oak Lawn.....   |                 |                   | 11.45           |                 | 78.65           |                 |
| 3217    | Both sides Third street SW., from E to F street.....                                    | 16              |                   |                 |                 | 646.21          |                 |
| 3218    | Both sides E street SW., between Third and Fourth streets.....                          | 30              |                   |                 |                 | 1,257.23        |                 |
| 3219    | Alley in square 159.....  | 46              |                   | 15              | 9.42            |                 |                 |
| 3220    | Both sides L street SE., between Eighth and Ninth streets.....                          |                 |                   |                 | 602.28          |                 |                 |
| 3221    | Both sides Fourteenth street NE., between H street and Maryland avenue.....             |                 |                   |                 | 508.70          |                 |                 |
| 3222    | East side Third street NE., between H and I streets.....                                | 63              |                   |                 |                 |                 |                 |
| 3223    | West side Kirby street NW., between New York avenue and N street.....                   |                 |                   |                 | 469             |                 |                 |
| 3224    | Both sides Sixteenth street NE., from Gales to Rosedale.....                            | 30              |                   |                 | 541             |                 |                 |
| 3225    | Alleys in square 449.....   | 215             |                   |                 |                 |                 |                 |
| 3226    | East and west 10-foot alley in square 672.....  | 296             |                   |                 |                 |                 |                 |
| 3227    | Alleys in east half square 444.....   | 531             |                   | 50              | 28.26           |                 |                 |
| 3229    | West side Fourteenth street SE., between G street and Pennsylvania avenue.....          |                 | 187.98            | 28.80           | 245.20          |                 |                 |
| 3233    | South side Hartford street NE., between Tenth and Twelfth streets.....                  |                 | 277.71            |                 |                 |                 |                 |
| 3234    | South side S street NW., from Twenty-second to Phelps place..                           | 1,725           |                   |                 |                 |                 |                 |

k—Continued.

| ified<br>ck<br>red. | Asphalt<br>block<br>paved. | Cobble.  | Asphalt<br>tile<br>relaid. | Flag<br>laid. | Flag<br>relaid. | Brick<br>sidewalk<br>laid. | Brick<br>sidewalk<br>relaid. | Granite<br>block<br>laid. | Cost.    |
|---------------------|----------------------------|----------|----------------------------|---------------|-----------------|----------------------------|------------------------------|---------------------------|----------|
| yds.                | Sq. yds.                   | Sq. yds. | Sq. yds.                   | Lin. ft.      | Lin. ft.        | Sq. yds.                   | Sq. yds.                     | Sq. yds.                  |          |
|                     |                            |          |                            |               |                 |                            |                              |                           | \$634.21 |
|                     |                            |          |                            |               |                 |                            |                              |                           | 856.55   |
|                     |                            |          |                            |               |                 |                            |                              |                           | 651.14   |
|                     |                            |          |                            |               |                 |                            |                              |                           | 1,700.72 |
|                     |                            |          |                            |               |                 |                            |                              |                           | 135.41   |
|                     |                            |          |                            |               |                 |                            |                              |                           | 1,263.83 |
|                     |                            | 6        |                            |               |                 |                            | 12                           |                           | 151.81   |
|                     |                            |          |                            |               |                 |                            |                              |                           | 1,546.99 |
|                     | 1,002                      | 18       |                            |               | 54              |                            | 30                           |                           | 2,214.60 |
| 5                   |                            |          |                            | 20            |                 |                            | 2                            |                           | 1,728.13 |
| 9                   |                            |          |                            |               |                 |                            |                              |                           | 1,306.71 |
|                     |                            |          |                            |               |                 |                            |                              |                           | 123.45   |
|                     |                            |          |                            |               |                 |                            |                              |                           | 941.33   |
|                     |                            |          |                            |               |                 |                            |                              |                           | a 39.00  |
|                     |                            |          |                            |               |                 |                            |                              |                           | a 120.25 |
|                     |                            |          |                            |               |                 |                            | 9                            |                           | 98.68    |
|                     |                            |          |                            |               |                 |                            |                              |                           | 769.65   |
|                     | 1,065                      |          |                            |               |                 |                            |                              |                           | 1,490.37 |
|                     |                            |          |                            |               |                 |                            |                              |                           | 1,778.84 |
|                     |                            |          |                            |               |                 |                            |                              |                           | 620.00   |
|                     |                            |          |                            |               |                 |                            |                              |                           | 498.66   |
|                     |                            |          |                            |               |                 | 100                        | 14                           |                           | 103.81   |
|                     |                            |          |                            |               |                 |                            |                              |                           | 492.41   |
|                     | 3,056                      |          |                            |               |                 |                            |                              |                           | 540.04   |
|                     |                            |          |                            |               |                 |                            |                              |                           | 5,121.72 |
| 2                   |                            |          |                            |               |                 |                            |                              |                           | 485.69   |
|                     | 889.20                     |          |                            |               |                 |                            |                              |                           | 1,782.46 |
|                     |                            |          |                            |               |                 |                            |                              |                           | 449.05   |
|                     |                            |          |                            |               |                 |                            |                              |                           | 812.01   |
|                     |                            |          |                            |               |                 |                            |                              |                           | a 491.91 |

a Not completed.

TABLE

—Continued.

| fied<br>ck<br>ed. | Asphalt<br>block<br>paved. | Cobble.  | Asphalt<br>tile<br>relaid. | Flag<br>laid. | Flag<br>relaid. | Brick<br>sidewalk<br>laid. | Brick<br>sidewalk<br>relaid. | Granite<br>block<br>laid. | Cost.         |
|-------------------|----------------------------|----------|----------------------------|---------------|-----------------|----------------------------|------------------------------|---------------------------|---------------|
| nds.              | Sq. yds.                   | Sq. yds. | Sq. yds.                   | Lin. ft.      | Lin. ft.        | Sq. yds.                   | Sq. yds.                     | Sq. yds.                  |               |
|                   |                            |          |                            |               |                 |                            |                              |                           | \$100.88      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 286.21        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 1,394.48      |
|                   | 2,260                      |          |                            |               |                 |                            |                              |                           | 4,162.21      |
|                   | 1,310                      |          |                            |               |                 |                            |                              |                           | 2,831.70      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 667.24        |
|                   | 1,070                      |          |                            |               |                 |                            |                              |                           | 3,129.47      |
|                   | 515                        |          |                            |               |                 |                            |                              |                           | 1,099.46      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 1,209.24      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 198.55        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 953.62        |
|                   |                            |          |                            |               |                 |                            |                              |                           | a 492.66      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 33.28         |
|                   |                            |          |                            |               |                 |                            |                              |                           | 1,987.24      |
|                   |                            |          |                            |               |                 |                            |                              |                           | •<br>2,004.06 |
|                   |                            |          |                            |               |                 |                            |                              |                           | 735.86        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 518.41        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 685.60        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 849.81        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 239.75        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 1,047.64      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 142.34        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 202.63        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 3,217.96      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 1,039.28      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 818.56        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 1,708.27      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 768.30        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 984.01        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 290.86        |

a Not completed.

TABLE K.—Assessment

| Job No. | Location.   | Grading.        | Cement sidewalk. | Curb reset.     | Curb set.       |                 |                 |
|---------|---|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|
|         |   |                 |                  |                 | 6 by 20.        | 8 by 8.         | Old             |
|         |   | <i>Cu. yds.</i> | <i>Sq. yds.</i>  | <i>Lin. ft.</i> | <i>Lin. ft.</i> | <i>Lin. ft.</i> | <i>Lin. ft.</i> |
| 1812    | Both sides Fifth street NE., between D and F streets  |                 |                  |                 | 1,281.87        | 4.23            |                 |
| 4450    | Both sides Huntington place, from Fourteenth to University place                                  |                 |                  |                 |                 | 917.43          |                 |
| 4650    | Both sides Gales street NE., from Fifteenth to Seventeenth streets                                |                 |                  |                 | 2,238.75        |                 |                 |
| 1711    | Both sides Fifth street SE., between G street and Virginia avenue                                 |                 |                  |                 | 1,240.74        |                 |                 |
| 1811    | Both sides G street NE., between First and Fourth streets   |                 |                  |                 | 2,673.88        |                 |                 |
| 1814    | West side Fifteenth street NE., from E to G and east side Fifteenth street from south line lot 44 |                 |                  |                 | 234.57          | 1,461.34        |                 |
| 1815    | Both sides East Capitol street, from Thirteenth to Fourteenth streets                             |                 |                  |                 | 10.90           | 755.48          |                 |
| 8202    | North side V street NE., between Third and Fourth streets   |                 | 207.46           |                 |                 |                 |                 |
| 8203    | Sixth street NE., between H and I streets, lots 44, 45, 48  |                 | 35.57            |                 |                 |                 |                 |
| 8204    | South side Meridian avenue, between Center street and property line east                          | 68              | 218.05           |                 |                 | 370.75          |                 |
| 8205    | East side Fourteenth street SE., between G street and Pennsylvania avenue                         |                 | 155.67           |                 | 236.62          |                 | 17.80           |
| 1511    | Both sides Twenty-third street, between G and I streets NW  |                 |                  |                 |                 | 1,566.37        |                 |
| 1509    | East side Seventeenth street NW., T street to Florida avenue                                      |                 |                  |                 |                 | 847.90          |                 |
|         | Total   | 42,856.91       | 56,548.74        | 8,284.34        | 42,828.31       | 45,772.05       | 2,314.14        |

k—Continued.

| ified<br>ck<br>ved. | Asphalt<br>block<br>paved. | Cobble.         | Asphalt<br>tile<br>relaid. | Flag<br>laid.   | Flag<br>relaid. | Brick<br>sidewalk<br>laid. | Brick<br>sidewalk<br>relaid. | Granite<br>block<br>laid. | Cost.      |
|---------------------|----------------------------|-----------------|----------------------------|-----------------|-----------------|----------------------------|------------------------------|---------------------------|------------|
| <i>yds.</i>         | <i>Sq. yds.</i>            | <i>Sq. yds.</i> | <i>Sq. yds.</i>            | <i>Lin. ft.</i> | <i>Lin. ft.</i> | <i>Sq. yds.</i>            | <i>Sq. yds.</i>              | <i>Sq. yds.</i>           |            |
|                     |                            |                 |                            |                 |                 |                            |                              |                           | \$1,443.61 |
|                     |                            |                 |                            |                 |                 |                            |                              |                           | 1,053.30   |
|                     |                            |                 |                            |                 |                 |                            |                              |                           | 2,320.95   |
|                     |                            |                 |                            |                 |                 |                            |                              |                           | 1,365.08   |
|                     |                            |                 |                            |                 |                 |                            |                              |                           | 2,957.32   |
|                     |                            |                 |                            |                 |                 |                            |                              |                           |            |
|                     |                            |                 |                            |                 |                 |                            |                              |                           | 1,974.42   |
|                     |                            |                 |                            |                 |                 |                            |                              |                           | 850.36     |
|                     |                            |                 |                            |                 |                 |                            |                              |                           | 236.22     |
|                     |                            |                 |                            |                 |                 |                            |                              |                           | 35.11      |
|                     |                            |                 |                            |                 |                 |                            |                              |                           | 668.61     |
|                     |                            |                 |                            |                 |                 |                            |                              |                           |            |
|                     |                            |                 |                            |                 |                 |                            |                              |                           | 894.88     |
|                     |                            |                 |                            |                 |                 |                            |                              |                           | 1,851.51   |
|                     |                            |                 |                            |                 |                 |                            |                              |                           | 995.86     |
| 10                  | 17,945.70                  | 849             | 200                        | 20              | 54              | 745                        | 177                          |                           | 221,875.27 |

TABLE

|      |    |        |        |          |     |
|------|----|--------|--------|----------|-----|
| 3263 | 00 | 922.12 |        |          | 736 |
| 3264 |    |        |        | 1,812.10 |     |
| 3269 |    |        |        | 818      |     |
| 3270 |    |        | 109 94 | 310.06   |     |
| 3271 | 32 | 237.25 | 11     | 422.34   |     |
| 3275 |    | 919.37 |        |          |     |
| 3276 |    | 213.30 |        |          |     |
| 3287 |    | 389.64 |        | 895.62   |     |
| 3288 |    | 142.05 |        |          |     |
| 3013 |    | 119.98 |        | 127.61   |     |
| 4550 | 05 |        |        | 2,621.26 |     |
| 5254 |    |        |        | 918.61   |     |
| 1502 |    |        |        | 748.03   |     |
| 1507 |    |        |        | 1,614.63 |     |
| 1513 |    |        |        | 700.68   |     |
| 1708 |    |        |        | 853.72   |     |
|      |    |        | 2.50   | 344.96   |     |



—Continued.

| fied<br>ck<br>ed. | Asphalt<br>block<br>paved. | Cobble.  | Asphalt<br>tile<br>relaid. | Flag<br>laid. | Flag<br>relaid. | Brick<br>sidewalk<br>laid. | Brick<br>sidewalk<br>relaid. | Granite<br>block<br>laid. | Cost.         |
|-------------------|----------------------------|----------|----------------------------|---------------|-----------------|----------------------------|------------------------------|---------------------------|---------------|
| nds.              | Sq. yds.                   | Sq. yds. | Sq. yds.                   | Lin. ft.      | Lin. ft.        | Sq. yds.                   | Sq. yds.                     | Sq. yds.                  |               |
|                   |                            |          |                            |               |                 |                            |                              |                           | \$100.88      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 286.21        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 1,394.43      |
|                   | 2,280                      |          |                            |               |                 |                            |                              |                           | 4,162.21      |
|                   | 1,310                      |          |                            |               |                 |                            |                              |                           | 2,831.70      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 667.24        |
|                   | 1,070                      |          |                            |               |                 |                            |                              |                           | 3,129.47      |
|                   | 515                        |          |                            |               |                 |                            |                              |                           | 1,099.46      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 1,269.24      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 198.55        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 953.62        |
|                   |                            |          |                            |               |                 |                            |                              |                           | a 492.66      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 33.28         |
|                   |                            |          |                            |               |                 |                            |                              |                           | 1,987.24      |
|                   |                            |          |                            |               |                 |                            |                              |                           | •<br>2,004.06 |
|                   |                            |          |                            |               |                 |                            |                              |                           | 735.86        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 518.41        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 685.60        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 849.81        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 239.75        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 1,047.64      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 142.34        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 262.63        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 3,217.96      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 1,039.28      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 818.56        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 1,798.27      |
|                   |                            |          |                            |               |                 |                            |                              |                           | 768.30        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 984.01        |
|                   |                            |          |                            |               |                 |                            |                              |                           | 290.86        |

a Not completed.





TABLE P.—Grading streets, alleys, and roads, 1902.

| Job No. | Location.   | Gravel.  | Grading. | Cost.    |
|---------|---|----------|----------|----------|
|         |   | Sq. yds. | Cu. yds. |          |
| 1900    | Thirteenth street NE., between C and Emerson.....                       |          | 2,376    | \$44.50  |
| 1902    | Sixteenth street NE., from A to B streets.....                          |          | 313      | 5.00     |
| 1903    | M and N streets, from Twelfth to Baltimore and Ohio R. R.               |          | 11,196   | 1,055.25 |
| 1907    | Duncan street, from Fourteenth street east .....                        |          | 482      | 21.00    |
| 1908    | Block 26, Petworth .....  |          | 2,958    | \$24.50  |
| 1909    | Duncan street, between Fourteenth and Fifteenth.....                    | 342      | 48       | 22.50    |
| 1913    | C street, between Fifteenth and Seventeenth SE.....                     | 1,472    |          | 102.00   |
| 1914    | E street NE., between Twelfth and Fourteenth .....                      |          | 7,250    | 1,555.13 |
| 1916    | Warder avenue, between Whitney avenue and Rock Creek Channel road ..... |          | 1,284    | 60.00    |
| 1917    | D street NE., between Fourteenth and Fifteenth streets .....            |          | 2,904    | \$22.00  |
| 1918    | Duncan street NE., between Fourteenth and Fifteenth .....               |          | 108      | 4.50     |
| 1919    | E street NE., between Fourteenth and Fifteenth .....                    |          | 723      | 125.12   |
| 1920    | Hancock, McClellan, and Steuben streets .....                           |          | 5,018    | \$66.25  |
| 1923    | Florida avenue west of Twenty-second street .....                       |          | 764      | 37.00    |
| 1924    | Madison street west of Thirty-fifth street .....                        |          | 315      | 25.50    |
|         | Total .....   |          |          | 5,982.25 |

REPORT OF THE SUPERINTENDENT OF COUNTY ROADS.

WASHINGTON, July 1, 1902.

SIR: I have the honor to submit report of the operations of the county road division during the fiscal year ended June 30, 1902.

MORRIS HACKER,  
Superintendent of Roads.

The COMPUTING ENGINEER,  
District of Columbia.

Respectfully transmitted to the Engineer Commissioner, District of Columbia through Capt. H. C. Newcomer.

C. B. HUNT.  
Computing Engineer.

Expenditures for repairing county roads and suburban streets, fiscal year 1901-2.

| Job No.     | Location.                                       | Cost.      |
|-------------|---|------------|
| SECTION I.  |   |            |
| 4016        | Blagden Mill road .....                         | \$3,614.15 |
| 4029        | do.....   | 1,940.88   |
| 4038        | Newark street .....                             | 40.90      |
| 4057        | Connecticut avenue .....                        | 191.00     |
| 4070        | Nebraska avenue .....                           | 4,454.35   |
| 4071        | Woodley road.....                               | 997.17     |
| 4084        | Military road.....                              | 3,352.30   |
| 4089        | Highland avenue .....                           | 7,240.55   |
| 4102        | Belt road .....                                 | 206.75     |
| 4115        | Broad Branch road .....                         | 628.75     |
|             |   | 22,776.95  |
|             | Dangerous holes and minor repairs.....          | 5,949.56   |
|             | Total .....                                     | 28,726.51  |
| SECTION II. |   |            |
| 4008        | Brightwood avenue, front of cemetery.....       | 64.75      |
| 4009        | School street.....                              | 269.00     |
| 4010        | Vermillion street .....                         | 1,858.47   |
| 4012        | Ontario avenue .....                            | 90.13      |
| 4013        | Eighth street NW., north of Florida avenue..... | 74.75      |
| 4014        | Chesapeake street .....                         | 63.00      |
| 4015        | North Capitol street.....                       | 1,181.07   |
| 4024        | U street, North Capitol to First street.....    | 302.80     |
| 4025        | V street, North Capitol to First street .....   | 1,413.51   |
| 4026        | Utica street .....                              | 146.40     |
| 4027        | Central avenue .....                            | 190.50     |



















Considerable expenditure was made in improving the following by soiling and seeding, viz: Dent School parking, parking on New York avenue, between Eleventh and Thirteenth streets, NW.; the triangle at Twentieth and Baltimore streets, and the triangle at Nineteenth street and Columbia road.

*Expenditures for labor.*

|   |                  |
|---|------------------|
| Tree planting.....                              | \$7,800.00       |
| Care of the nurseries.....                      | 1,759.50         |
| Trimming of trees on the streets.....           | 3,648.89         |
| Repairing storm damages.....                    | 1,000.00         |
| Removing trees.....                             | 1,200.00         |
| Removing caterpillars.....                      | 1,721.00         |
| Paving around newly planted trees.....          | 254.00           |
| Removing old decayed boxes.....                 | 25.00            |
| Mowing street parkings, etc.....                | 1,000.00         |
| Readjusting wire tree guards.....               | 656.00           |
| Cultivating trees on the streets.....           | 1,509.50         |
| Work at the office yard.....                    | 940.50           |
| Gathering tree seeds (various kinds).....       | 25.00            |
| Soiling and seeding parkings and triangles..... | 389.00           |
| <b>Total amount expended for labor.....</b>     | <b>21,928.39</b> |

*Expenditures for materials.*

|                                |          |
|--------------------------------|----------|
| Two horses.....                | \$340.00 |
| Lumber.....                    | 2,300.00 |
| Soil.....                      | 270.00   |
| Nails.....                     | 95.00    |
| Terra-cotta pipe.....          | 60.00    |
| Strap iron.....                | 78.00    |
| Grass seed and fertilizer..... | 65.00    |
| 400 silver maples.....         | 80.00    |
| Leather straps.....            | 300.00   |
| Other materials.....           | 1,256.76 |

|   |                  |
|---|------------------|
| <b>Total amount expended for materials.....</b> | <b>4,844.76</b>  |
| <b>Total amount expended for labor.....</b>     | <b>21,928.39</b> |

**Total amount expended for materials and labor..... 26,773.15**

|   |           |
|---|-----------|
| Appropriation for year 1902.....                | 25,000.00 |
| Allotment from emergency fund.....              | 1,000.00  |
| Amount obtained through repayment vouchers..... | 811.10    |

|                                  |                  |
|----------------------------------|------------------|
| <b>Total working amount.....</b> | <b>26,811.10</b> |
| <b>Total expended.....</b>       | <b>26,773.15</b> |

**Total unexpended..... 37.95**

Four foremen were employed continuously during the year at the rate of \$3 per diem, aggregating a total expenditure of \$3,588.75.

|   |        |
|---|--------|
| Number of trees on the streets, as per last report..... | 82,531 |
| Number of trees removed during the year.....            | 644    |

|  |        |
|--|--------|
|  | 81,887 |
| Number of trees planted during the year..... | 2,600  |

**Number of trees now on the streets..... 84,487**

I recommend an increase of \$200 each in the salaries of the superintendent and assistant superintendent of parking.

Very respectfully,

TRUEMAN LANHAM,  
*Superintendent of Parking, District of Columbia.*

Maj. JOHN BIDDLE,  
*Corps of Engineers, U. S. Army,*  
*Engineer Commissioner, District of Columbia.*  
(Through Captain Newcomer.)





Trees removed—Continued.

| Date.           | Situation.                                |  | Age. | Kind of tree.     | Pavement.          |             | Size of space. | Cause of removal.                            |
|-----------------|---|--|------|-------------------|--------------------|-------------|----------------|--|
|                 | Street.                                   | Between—   |      |                   | Roadway.           | Sidewalk.   |                |  |
| 1912.<br>May 20 | Columbia road.....                        | Eighteenth and Nineteenth streets.                 | 4    | Sugar maple.....  | Asphalt.....       | Cement..... | 6 by 4 feet.   | Dead; cause unknown.                         |
| 20              | Thirteenth street NW.....                 | Yale and Princeton.....                            | 2    | Norway maple..... | Gravel.....        | do.....     | do.....        | Dead; oil in straps.                         |
| 23              | Fourth street NW.....                     | New York avenue and M street.                      | 17   | Negundo.....      | Granite block..... | Brick.....  | 6 by 2 feet.   | Dead; probably pruning account caterpillars. |
| 19              | Second street NW.....                     | D and E streets.....                               | 11   | E. linden.....    | Asphalt.....       | do.....     | 2 by 2 feet.   | Decayed and dangerous.                       |
| 19              | B street SE.....                          | First and Second streets (2 trees).                | 12   | Negundo.....      | do.....            | Cement..... | 6 by 3 feet.   | Dead; killed by escaping gas.                |
| 20              | Minnesota avenue SE.....                  | Pennsylvania avenue and Anacostia road (12 trees). | 15   | Sycamore.....     | Macadam.....       | .....       | .....          | Dead; cause unknown.                         |
| 20              | Second street SE.....                     | Corner of Virginia avenue                          | 17   | Aspen poplar..... | Dirt.....          | Brick.....  | 6 by 3 feet.   | Leaning over the street.                     |
| 20              | B street NW.....                          | Thirteenth and Fourteenth streets.                 | 12   | A. linden.....    | Asphalt.....       | do.....     | do.....        | Dead; killed by gas.                         |
| June 4          | F street NW.....                          | Eighteenth and Nineteenth streets.                 | 20   | Car. poplar.....  | Dirt.....          | do.....     | 6 by 2 feet.   | Dead; eaten by horses.                       |
| 5               | Fourteenth street NW.....                 | I and K streets.....                               | 13   | Soft maple.....   | Asphalt.....       | Cement..... | do.....        | Dead; roots cut in curb setting.             |
| 5               | Thirteenth street NW.....                 | New York avenue and I street.                      | 30   | Aspen poplar..... | do.....            | Brick.....  | .....          | Dead; cause unknown.                         |
| May 19          | Second street NW.....                     | E and F streets.....                               | 15   | A. linden.....    | do.....            | do.....     | 6 by 3 feet.   | Dead; killed by horses.                      |
| 21              | Pennsylvania avenue SE.....               | Minnesota avenue and Bridge street (5 trees).      | 17   | Sycamore.....     | Gravel.....        | .....       | .....          | Dead; eaten by horses.                       |
| 21              | I street NW.....                          | Seventh and Eighth streets.                        | 17   | Car. poplar.....  | Asphalt.....       | Cement..... | 6 by 3 feet.   | Dangerous from winds and root mutilation.    |
| 22              | Virginia avenue SE.....                   | do.....  | 14   | A. linden.....    | In parking.        | .....       | .....          | Objectionable; in way of new steps.          |
| 22              | Nineteenth street NW.....                 | R and S streets.....                               | 24   | Aspen poplar..... | In parking.        | .....       | .....          | Obscured light from house.                   |
| 22              | Fifth street SE.....                      | E and G streets (7 trees).                         | 20   | A. linden.....    | Granite block..... | Brick.....  | 6 by 4 feet.   | Dead; caused by escaping gas.                |
| June 2          | Fourteenth street NW.....                 | E and F streets (2 trees).                         | 19   | Soft maple.....   | do.....            | do.....     | .....          | In way of new building (Mr. Willard's).      |
| 2               | Twenty-second street NW.....              | L and M streets.....                               | 27   | do.....           | Asphalt.....       | do.....     | 6 by 3 feet.   | Dead; killed by gas.                         |
| 2               | M street NW.....                          | Tenth and Eleventh streets.                        | 22   | do.....           | In parking.        | .....       | .....          | In line of a new fence.                      |
| 3               | A street NE.....                          | Sixth and Seventh streets.                         | 26   | do.....           | do.....            | Cement..... | 6 by 3 feet.   | Dangerous; broken during storm.              |
| 5               | Twenty-first street NW.....               | H and I streets.....                               | 20   | do.....           | In parking.        | .....       | .....          | Dead; killed by gas.                         |
| 8               | D street SW.....                          | First and Second streets.                          | 10   | do.....           | do.....            | Brick.....  | 6 by 3 feet.   | Dead; girdled by horses.                     |
| 8               | Jefferson street east of Polk street..... | Third and Fourth streets.                          | 24   | Aspen poplar..... | Gravel.....        | do.....     | C. P. S.       | In way of new sewer trap.                    |
| 4               | Cl street SW.....                         | Twentieth and Twenty-first streets.                | 10   | Soft maple.....   | Asphalt.....       | do.....     | 6 by 3 feet.   | Dead; killed by horses.                      |
| 5               | K street NW.....                          | do.....  | 15   | do.....           | do.....            | do.....     | 6 by 2 feet.   | Blown down during storm.                     |
| 5               | Twenty-first street NW.....               | K and L streets.....                               | 17   | do.....           | do.....            | do.....     | do.....        | Dead; killed by gas.                         |

Total number trees removed since May 17, 1912, 120.



## SUBSURFACE AND BUILDING DIVISIONS.

Capt. CHESTER HARDING,

*Corps of Engineers, United States Army, Assistant to the Engineer Commissioner. in charge.*

|  |   |
|--|---|
| WATER DISTRIBUTION.....                  | W. A. MCFARLAND,<br>Superintendent Water Department.                      |
| WATER RATES.....                         | GEORGE F. GREEN,<br>Water Registrar and Chief Clerk,<br>Water Department. |
| SEWER CONSTRUCTION AND MAINTENANCE ..... | D. E. MCCOMB,<br>Superintendent of Sewers.                                |
| PLUMBING PLANS AND INSPECTION .....      | O. L. INGALLS,<br>Inspector of Plumbing.                                  |
| BUILDING AND BUILDING INSPECTION.....    | { SNOWDEN ASHFORD,<br>Inspector of Buildings.                             |
|  | { A. M. LAWSON,<br>Inspector of Elevators.                                |
| REPAIRS TO BUILDINGS .....               | G. B. COLEMAN,<br>Superintendent of Repairs.                              |

### REPORT OF ASSISTANT IN CHARGE.

OFFICE OF THE ENGINEER COMMISSIONER,  
DISTRICT OF COLUMBIA,  
Washington, October 13, 1902.

MAJOR: I have the honor to forward herewith the reports of the divisions of the engineer department under my charge for the year ending June 30, 1902, as submitted by the superintendent of the water department, the water registrar, the superintendent of sewers, the inspector of plumbing, the inspector of buildings, and the superintendent of repairs.

Very respectfully, your obedient servant,

CHESTER HARDING,

*Captain, Corps of Engineers, Assistant to Engineer Commissioner.*

Maj. JOHN BIDDLE,

*Corps of Engineers, Engineer Commissioner.*

### REPORT OF THE SUPERINTENDENT OF THE WATER DEPARTMENT.

WASHINGTON, D. C., July 21, 1902.

SIR: I have the honor to submit the following report of work done by the distribution branch of the water department for the fiscal year ending June 30, 1902.

The routine work of main extension, fire-hydrant erection, etc., is fully set forth in the accompanying tables, to which reference is made for details of cost, etc. The total length of mains laid during the year was 54,209 feet, equal to about 10 miles, as against 65,812 feet for the year preceding.

Eighty-three fire hydrants were set, bringing the total number available for use up to 2,114.

#### PUMPING STATIONS.

*U street.*—No changes of any importance were made in the equipment during the year.

On July 19 the 8,000,000-gallon pump was disabled by the parting of a number of steel studs connecting the upper and lower sections of the intermediate water chamber; repairs were at once begun. On the morning of July 20, the auxiliary engine of the 7,000,000-gallon pump was wrecked by the breaking of the beam at the trunnions. This left an area with a population of about 50,000 people and a normal water consumption of 8,000,000 gallons a day dependent on a reserve supply of 24,000,000 gallons in Brightwood reservoir and the pumpage of two small pumps with a combined capacity of 1,500,000 gallons a day.

As many extra machinists and helpers as could be used on the work were at once employed, and by 1 o'clock a. m. on the 21st sufficient repairs had been made on the 7,000,000-gallon auxiliary to enable the starting of this pump. Some three days later the 8,000,000-gallon pump was started.

The work of repair was made particularly difficult by reason of the small amount of space available and the extreme heat.

# 100 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

Following are items of chief interest from station records:

## Water pumped during year:

|                      |                    |       |
|----------------------|--------------------|-------|
| Middle service ..... | million gallons .. | 2,665 |
| High service .....   | do .....           | 117   |
| Total .....          | do .....           | 2,782 |

## Per cent increase over year ending June 30, 1901:

|                      |       |
|----------------------|-------|
| Middle service ..... | 1.25  |
| High service .....   | 21.88 |

## Water pumped per day during year:

|                      |            |           |
|----------------------|------------|-----------|
| Middle service ..... | gallons .. | 7,301,179 |
| High service .....   | do .....   | 320,532   |
| Total .....          | do .....   | 7,621,711 |

|                                  |           |           |
|----------------------------------|-----------|-----------|
| Coal burned during year .....    | pounds .. | 5,485,715 |
| Coal burned per day, mean .....  | do .....  | 15,029    |
| Cost of coal per year .....      |           | \$7,956   |
| Cost of coal per day, mean ..... |           | \$21.79   |

## Cost of pumping during year.

### Running expenses at station:

|                              |             |
|------------------------------|-------------|
| Labor .....                  | \$12,829.44 |
| Coal .....                   | 7,956.00    |
| Oil .....                    | 517.91      |
| Waste .....                  | 271.90      |
| Miscellaneous supplies ..... | 596.40      |
| Material for repairs .....   | 1,064.98    |

|             |           |
|-------------|-----------|
| Total ..... | 23,236.63 |
|-------------|-----------|

|                     |         |
|---------------------|---------|
| Per day, mean ..... | \$63.63 |
|---------------------|---------|

|                         |           |
|-------------------------|-----------|
| Cost of land .....      | 2,275.00  |
| Cost of building .....  | 30,000.00 |
| Cost of machinery ..... | 75,000.00 |

107,275.00

|  |          |
|--|----------|
| Interest, at 3 per cent .....              | 3,218.35 |
| Depreciation, building and machinery ..... | 3,150.00 |

|                   |           |
|-------------------|-----------|
| Grand total ..... | 29,604.88 |
|-------------------|-----------|

|               |       |
|---------------|-------|
| Per day ..... | 81.11 |
|---------------|-------|

|   |          |      |
|---|----------|------|
| Total cost of pumping 1,000 gallons under actual conditions (including interest and depreciation) ..... | cents .. | 1.06 |
|---|----------|------|

*Anacostia station.*—This station has been in continuous use during the year, delivering water, by direct pressure, to a height of about 190 feet above tide, and giving excellent service. The pump used is an old direct-acting "Blake," of low efficiency. It is hoped that in the near future the water department may be enabled to replace this pump with a modern one of high-duty type, and build a permanent station building in place of the present temporary wooden structure.

Following are the principal data of interest from this station's records:

|                                  |                    |            |
|----------------------------------|--------------------|------------|
| Water pumped during year .....   | million gallons .. | 141        |
| Mean, per day .....              | gallons ..         | 386,300    |
| Coal burned during year .....    | pounds ..          | 998,515    |
| Coal burned per day, mean .....  | do .....           | 2,735      |
| Cost of coal per year .....      |                    | \$1,448.74 |
| Cost of coal per day, mean ..... |                    | 3.96       |

"This small increase is due to the fact that area supplied by pumps was reduced by extension of gravity service, made possible by completion of Washington Aqueduct extension.





at the hydrants in the Providence system varied from 196 to 267 feet, while those in the system as proposed for Washington would range from 355 to 385 feet.

In writing of the Providence system, E. B. Weston, civil engineer, says (Journal of N. E. Waterworks Association), September, 1898:

"The high-pressure fire service seems to give general satisfaction to all concerned.

"The insurance rates have been reduced 5 per cent within the district which it is intended to protect, and an authority in regard to insurance has estimated that the holders of policies within the district will save in ten years, owing to smaller premiums being paid, an amount which will exceed the total cost of the entire system. During a large fire last December (1897), in the opinion of the fire commissioners and others, the system practically paid for itself, as the fire was kept within the walls of the building in which it originated by the aid of the high-pressure fire service." \* \* \*

The cost of the Providence system was \$143,175.

An important point in favor of the separate high-pressure service is that it will encourage the extensive introduction of automatic sprinklers. There are at present but few of these in use in this city, and those few are served by local pumps and roof tanks. If the high-pressure service were introduced these sprinklers would be directly connected with the street mains, thus obtaining higher pressure and much more certain supply.

As a partial offset to the cost of construction would be the saving to the fire department in the matter of apparatus. Steamers would be dispensed with in the high-pressure districts, thus saving first cost and maintenance charges, and incidentally leaving more men free for the actual work of fighting fire.

Even if the high-pressure service be not constructed it will be necessary in a few years to lay a new main from the pumping station to Reno reservoir, at an estimated cost of \$120,000. This amount also should be considered as a partial offset to the first cost of the system.

The decreased fire risk and consequent reduction in insurance rates alone would, in my opinion, fully justify the expenditure necessary to secure these results.

In safety from accidental derangement the system would be much better than that now in use, as the trunk line would be served from the reserve supply (4,500,000 gallons) in Reno reservoir, with an elevation of 415 feet at one end and directly from the pumping engines at the other. There would be made an emergency connection with the Brightwood reservoir (30,000,000), with an elevation of 278 feet above tide for use only in case both other sources of supply should fail.

Should the Commissioners approve of this project it is recommended that Congress be asked to appropriate for the work, as all available funds of the water department are needed for the completion of the new domestic distribution system now under construction.

Should such appropriation be made it would be well to enact that the system below elevation of 200 feet should be used for no purpose but the supply of street fire hydrants and sealed automatic sprinkler systems, and that high-pressure fire hydrants should be used by no persons other than employees of the fire and water departments.

Following are given in outline the calculations on which the foregoing statements are based.

1. *Determination of size of trunk main.*—Length of main from reservoir to center of District, 27,000 feet; length of main from pumps to center of District, 12,000 feet; capacity of pumping engine available for this service, 4,100 gallons per minute; maximum rate of flow, based on 30 simultaneous streams of 333 gallons per minute each, 10,000 gallons per minute; with pumps running, rate of flow from reservoir to center of District, for 30 streams,  $10,000 - 4,100 = 5,900$  gallons per minute, through 27,000 linear feet of main.

(a) Assuming a 30-inch main, with average deterioration at end of ten years, we have from Weston's tables, friction loss per 1,000 feet of pipe for 5,900 gallons flow, 1.22, or a total loss of head of 27 by  $1.22 \times 27 = 33$  feet. With pumps stopped, rate of flow would be 10,000 gallons per minute, which, from same tables, would result in a total loss of head of 93 feet.

(b) Assuming a 36-inch main, the total losses of head under similar circumstances would be, respectively, 13 and 37 feet. The former losses are, in my opinion greater than should be permitted, and I have therefore recommended the larger main, 36 inches in diameter.

## 2. Estimates of cost.

## (a) 30-inch trunk main, 39,000 feet long:

|  | Pounds           |
|--|------------------|
| Pipe:  |                  |
| 10,000 linear feet, at 290 pounds per foot .....           | 2,900,000        |
| 2,000 linear feet, at 336 pounds per foot .....            | 672,000          |
| 3,000 linear feet, at 400 pounds per foot .....            | 1,200,000        |
| 24,000 linear feet, at 452 pounds per foot .....           | 10,848,000       |
|  | <hr/> 15,620,000 |
| 15,620,000 pounds cast-iron pipe, at 1 cent .....          | \$156,200.00     |
| 300,000 pounds lead, at 5 cents .....                      | 15,000.00        |
| Labor and miscellaneous material, at \$1.75 per foot ..... | 68,250.00        |
|  | <hr/> 239,450.00 |
| Total estimated cost 30-inch trunk main .....              |                  |

## (b) 36-inch trunk main, 39,000 feet long:

|   | Pounds           |
|---|------------------|
| Pipe:   |                  |
| 10,000 linear feet, at 392 pounds per foot .....        | 3,920,000        |
| 2,000 linear feet, at 455 pounds per foot .....         | 910,000          |
| 3,000 linear feet, at 545 pounds per foot .....         | 1,635,000        |
| 24,000 linear feet, at 624 pounds per foot .....        | 14,976,000       |
|   | <hr/> 21,441,000 |
| 21,441,000 pounds cast-iron pipe, at 1 cent .....       | \$214,410.00     |
| 330,000 pounds lead, at 5 cents .....                   | 16,500.00        |
| Labor and miscellaneous material, at \$2 per foot ..... | 78,000.00        |
|   | <hr/> 308,910.00 |
| Total estimated cost of 36-inch trunk main .....        |                  |

Excess of cost of 36-inch over 30-inch main, \$308,910—\$239,450 ..... \$69,460.00

## (c) Estimated length of 24-inch secondary trunk mains for No. 1 district, 15,000 feet.

|  | Pounds          |
|--|-----------------|
| 15,000 feet cast-iron pipe, at 307 pounds per foot ..... | 4,605,000       |
| 4,605,000 pounds pipe, at 1 cent .....                   | \$46,050.00     |
| 50,000 pounds lead, at 5 cents .....                     | 2,500.00        |
| Labor, etc., at \$1.10 per foot .....                    | 16,500.00       |
|  | <hr/> 65,050.00 |
| Total .....  |                 |

## (d) Estimated length of 16-inch service mains for No. 1 district, 30,000 feet:

|  |                 |
|--|-----------------|
| 30,000 feet cast-iron pipe, at 158 pounds per foot ..... pounds .. | 4,740,000       |
| 4,740,000 pounds pipe, at 1 cent .....                             | \$47,400.00     |
| 62,500 pounds lead, at 5 cents .....                               | 3,125.00        |
| Labor, etc., at 75 cents per foot .....                            | 22,500.00       |
|  | <hr/> 73,025.00 |
|  |                 |

## (e) Estimated length 10-inch branch pipes, 10,000 feet:

|   |                 |
|---|-----------------|
| 10,000 feet cast-iron pipe, at 77 pounds per foot ..... | 770,000         |
| 770,000 pounds pipe, at 1 cent .....                    | \$7,700.00      |
| 9,000 pounds lead, at 5 cents .....                     | 450.00          |
| Labor, etc., at 50 cents per foot .....                 | 5,000.00        |
|   | <hr/> 13,150.00 |

## (f) 200 special hydrants, at \$100 .....

20,000.00

|                            |            |
|----------------------------|------------|
| (g) Special gates:         |            |
| 14 36-inch, at \$500 ..... | \$7,000.00 |
| 10 24-inch, at \$150 ..... | 1,500.00   |
| 40 16-inch, at \$65 .....  | 2,600.00   |
| 200 10-inch, at \$25 ..... | 5,000.00   |
|                            | <hr/>      |
|                            | 16,100.00  |

SUMMARY.

|             |              |
|-------------|--------------|
| (b) .....   | \$308,910.00 |
| (c) .....   | 65,050.00    |
| (d) .....   | 73,025.00    |
| (e) .....   | 13,150.00    |
| (f) .....   | 20,000.00    |
| (g) .....   | 16,100.00    |
|             | <hr/>        |
| Total ..... | 496,235.00   |

Very respectfully,

W. A. McFarland,  
Superintendent Water Department.

Capt. CHESTER HARDING,  
United States Corps of Engineers,  
Assistant to Engineer Commissioner, District of Columbia.

TABLE I.—Mains laid and miscellaneous work during the fiscal year ending June 30, 1902.

|                               |                   |
|-------------------------------|-------------------|
| New mains laid:               |                   |
| 30 inches diameter .....      | linear feet 1,227 |
| 20 inches diameter .....      | do 203            |
| 12 inches diameter .....      | do 14,010         |
| 6 inches diameter .....       | do 35,481         |
| 4 inches diameter .....       | do 1,414          |
| 3 inches diameter .....       | do 1,632          |
| 2½ inches diameter .....      | do 242            |
| Mains lowered .....           | do 4,204          |
| New stop valves .....         | 138               |
| Fire hydrants erected .....   | 83                |
| Public hydrants erected ..... | 7                 |
| Horse fountains erected ..... | 10                |

TABLE II.—Summary of the distribution system.

|                           | In service<br>prior to<br>June 30,<br>1901. | Added<br>during<br>fiscal<br>year. | Total<br>June 30,<br>1902. |
|---------------------------|---|------------------------------------|----------------------------|
| 75 inches diameter .....  | 600   |                                    | 600                        |
| 48 inches diameter .....  | 30,000                                      |                                    | 30,000                     |
| 36 inches diameter .....  | 34,082                                      |                                    | 34,082                     |
| 30 inches diameter .....  | 37,720                                      | 1,227                              | 38,947                     |
| 24 inches diameter .....  | 21,545                                      |                                    | 21,545                     |
| 20 inches diameter .....  | 36,366                                      | 203                                | 36,569                     |
| 16 inches diameter .....  | 2,508                                       |                                    | 2,508                      |
| 12 inches diameter .....  | 202,543                                     | 14,010                             | <sup>a</sup> 214,987       |
| 10 inches diameter .....  | 10,255                                      |                                    | 10,255                     |
| Total trunk mains .....   | 375,619                                     | 15,440                             | 389,493                    |
| 8 inches diameter .....   | 6,005                                       |                                    | 6,005                      |
| 6 inches diameter .....   | 1,433,583                                   | 35,481                             | 1,469,064                  |
| 4 inches diameter .....   | 131,882                                     | 1,414                              | 133,296                    |
| 3 inches diameter .....   | 61,435                                      | 1,632                              | 63,067                     |
| 2½ inches diameter .....  |   | 242                                | 242                        |
| 2 inches diameter .....   | 4,118                                       |                                    | 4,118                      |
| 1½ inches diameter .....  | 3,802                                       |                                    | 3,802                      |
| Grand total .....         | 2,016,444                                   | 54,209                             | 2,069,067                  |
| Stop valves .....         | 4,228                                       | 138                                | <del>4,806</del>           |
| Fire hydrants .....       | 2,081                                       | 83                                 | <sup>b</sup>               |
| Public hydrants .....     | 333   | 7                                  |                            |
| Service connections ..... | 46,589                                      | 1,401                              |                            |
| Horse fountains .....     | 86  | 10                                 |                            |

<sup>a</sup> 1,566 feet of 12-inch main abandoned.      <sup>b</sup> 11 public hydrants abandoned.





TABLE IV.—Statement of length and cost of water mains, etc.—Continued.

THE

TABLE V.—Average cost per foot for laying mains of various sizes, excluding repairs to improved pavements, during the fiscal year ending June 30, 1902.

| Size.        | Linear feet. | Cost of material. | Cost of labor | Total cost. |
|--------------|--------------|-------------------|---------------|-------------|
| 24-inch..... | 242          | \$0.292           | \$0.441       | \$0.733     |
| 8-inch.....  | 550          | .874              | 501           | .875        |
| 4-inch.....  | 1,860        | .270              | .458          | .728        |
| 6-inch.....  | 34,061       | .272              | 498           | .770        |
| 12-inch..... | 14,010       | .300              | 980           | 1.870       |
| 20-inch..... | 203          |                   |               |             |
| 30-inch..... | 1,227        | 1.630             | 4.130         | 5.760       |

TABLE VI.—Statement of length and cost of water mains laid for the extension of the high-service system of water distribution from July 1, 1893, to June 30, 1902.

| Size of main. | Laid to June 30, 1901. | Laid during year ending June 30, 1902. | Total.  |
|---------------|------------------------|--|---------|
| 1½-inch.....  | 2,717                  |  | 2,717   |
| 2-inch.....   | 1,006                  |  | 1,006   |
| 3-inch.....   | 1,808                  |  | 1,808   |
| 4-inch.....   | 5,417                  | 284                                    | 5,701   |
| 6-inch.....   | 162,804                | 25,873                                 | 188,477 |
| 12-inch.....  | 84,025                 | 14,010                                 | 98,035  |
| 16-inch.....  | 48                     |  | 48      |
| 20-inch.....  | 14,529                 | 203                                    | 14,732  |
| 24-inch.....  | 6,946                  |  | 6,946   |
| 30-inch.....  |                        | 1,227                                  | 1,227   |
| 36-inch.....  | 10,902                 |  | 10,902  |
| Total.....    | 290,291                | 41,297                                 | 331,688 |

Total cost to June 30, 1901.....\$387,212.44  
 Total cost for fiscal year ending June 30, 1902.....47,679.75  
 Aggregate cost to June 30, 1902.....434,892.19

# 110 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

TABLE VII.—Daily average consumption, middle and high services.

| Month.         | Middle.   | High.   | Month.        | Middle.   | High.   |
|----------------|-----------|---------|---------------|-----------|---------|
| 1901.          |           |         | 1902.         |           |         |
| July.....      | 8,441,045 | 343,877 | January.....  | 8,615,046 | 370,000 |
| August.....    | 8,227,867 | 295,256 | February..... | 8,780,661 | 375,000 |
| September..... | 8,518,641 | 281,945 | March.....    | 7,852,748 | 310,779 |
| October.....   | 8,408,000 | 323,484 | April.....    | 7,909,406 | 281,594 |
| November.....  | 8,153,604 | 319,578 | May.....      | 7,768,720 | 310,084 |
| December.....  | 8,551,328 | 328,060 | June.....     | 8,086,575 | 345,041 |

TABLE VIII. Statement of the number of shallow and deep wells.

|  | Shallow wells. | Deep wells. | Total. |
|--|----------------|-------------|--------|
| In service June 30, 1901.....  | 62             | 40          | 102    |
| Closed and discontinued during fiscal year ending June 30, 1902..... | 0              | 0           | 0      |
| In service June 30, 1902.....  | 62             | 40          | 102    |

Number of assistant engineers, clerks, inspectors, foremen, and other employees (exclusive of day laborers) in the employ of the Water Department of the District of Columbia, and the appropriation from which paid, for the fiscal year ending June 30, 1902.

| Designations.                       | Number. | Per diem. | Appropriation from which paid.          |  |                               | Total.    |
|-------------------------------------|---------|-----------|---|--|-------------------------------|-----------|
|                                     |         |           | Pumping expenses and pipe distribution. | High-service system, water distribution. | Purchase and repair of pumps. |           |
| Assistant engineer.....             | 1       | \$5.00    |   | \$990.00                                 |                               | \$990.00  |
| Do.....                             | 1       | 5.00      |   | 990.00                                   |                               | 990.00    |
| Superintendent of construction..... | 1       | 5.00      |   | 672.00                                   |                               | 672.00    |
| Superintendent of stables.....      | 1       | 5.00      | \$510.00                                |  |                               | 510.00    |
| Inspector.....                      | 1       | 5.00      |   | 1,005.00                                 |                               | 1,005.00  |
| Inspectors.....                     | 5       | 4.50      | 544.50                                  | 2,096.88                                 |                               | 2,641.38  |
| Inspector.....                      | 1       | 4.00      |   | 396.00                                   |                               | 396.00    |
| Do.....                             | 1       | 3.00      |   | 982.25                                   |                               | 982.25    |
| Inspectors.....                     | 13      | 2.50      | 67.50                                   | 5,398.00                                 |                               | 5,465.50  |
| Clerk.....                          | 1       | 4.50      | 1,408.50                                |  |                               | 1,408.50  |
| Clerks.....                         | 6       | 4.00      | 1,064.00                                | 2,156.00                                 |                               | 3,220.00  |
| Instrument man.....                 | 1       | 3.50      |   | 1,085.50                                 |                               | 1,085.50  |
| Rodman.....                         | 1       | 3.00      |   | 399.00                                   |                               | 399.00    |
| Do.....                             | 1       | 2.50      |   | 500.00                                   |                               | 500.00    |
| Chainman.....                       | 1       | 2.25      |   | 625.50                                   |                               | 625.50    |
| Draftsman.....                      | 1       | 3.00      |   | 327.00                                   |                               | 327.00    |
| Do.....                             | 1       | 2.50      |   | 542.50                                   |                               | 542.50    |
| Assistant foreman.....              | 1       | 3.50      | 1,102.25                                |  |                               | 1,102.25  |
| Assistant foremen.....              | 2       | 3.00      | 534.00                                  | 429.00                                   | \$605.00                      | 1,568.00  |
| Do.....                             | 2       | 2.50      |   | 52.50                                    | 41.87                         | 721.87    |
| Chief steam engineer.....           | 1       | 4.50      |   |  |                               | 1,167.40  |
| Assistant steam engineer.....       | 1       | 4.00      |   |  |                               | 239.00    |
| Assistant steam engineers.....      | 5       | 2.50      |   |  |                               | 2,325.00  |
| Do.....                             | 3       | 2.00      |   |  |                               | 556.50    |
| Machinist.....                      | 1       | 4.00      |   |  |                               | 128.00    |
| Assistant machinist.....            | 1       | 3.50      |   |  |                               | 1,017.63  |
| Assistant machinists.....           | 2       | 3.00      |   | 564.00                                   |                               | 291.25    |
| Plumbers.....                       | 2       | 3.50      |   |  |                               | 2,067.36  |
| Plumber.....                        | 1       | 3.00      |   |  |                               | 419.00    |
| Storekeeper.....                    | 1       | 3.00      |   |  |                               | 950.25    |
| Assistant storekeeper.....          | 1       | 2.50      | 713.75                                  |  |                               | 713.75    |
| Carpenter.....                      | 1       | 3.00      | 906.25                                  |  |                               | 906.25    |
| Do.....                             | 1       | 3.25      | 43.08                                   |  |                               | 43.08     |
| Blacksmith.....                     | 1       | 3.25      | 165.75                                  |  |                               | 165.75    |
| Do.....                             | 1       | 3.00      | 760.50                                  |  |                               | 760.50    |
| Assistant tapper.....               | 1       | 2.50      | 577.00                                  | 192.50                                   |                               | 769.50    |
| Firemen.....                        | 4       | 2.50      | 2,625.00                                |  |                               | 2,625.00  |
| Do.....                             | 7       | 2.00      | 2,344.00                                |  |                               | 2,344.00  |
| Watchman.....                       | 1       | 2.50      |   | 912.50                                   |                               | 912.50    |
| Watchmen.....                       | 4       | 1.75      | 1,698.49                                | 538.75                                   |                               | 2,537.24  |
| Messengers.....                     | 3       | 1.75      | 1,008.63                                |  |                               | 1,008.63  |
| Total.....                          | 86      |           | 26,567.25                               | 20,512.88                                | 908.87                        | 47,989.00 |

REPORT OF THE WATER REGISTRAR.

WASHINGTON, D. C.. *August 11, 1902.*

SIR: Complying with the order of July 3, 1902. I present herewith the annual report of the revenue and inspection branch of the water department for the fiscal year ending June 30, 1902. The report shows the financial condition, the work performed during the past year, together with such recommendations as are deemed necessary.

|   |           |
|---|-----------|
| Inspections made, noted, and recorded.....          | 105,923   |
| Cash receipts posted (average item \$6).....        | \$395,000 |
| Premises in which leaks were found.....             | 7,491     |
| Water-rent bills delivered by inspectors.....       | 32,634    |
| Water-rent bills made out.....                      | 65,000    |
| Water-main assessment notices delivered.....        | 911       |
| Tax certificates examined.....                      | 6,520     |
| Taps issued.....                                    | 1,412     |
| Stopcocks issued.....                               | 1,273     |
| Permits examined.....                               | 2,558     |
| Files received, recorded, and answered.....         | 900       |
| Letters sent out.....                               | 488       |
| Permits for water for building purposes issued..... | 642       |

The financial condition of the department, as will be seen by this statement, has not only equaled the past years, but surpassed them.

During the year just closed the task of reexamining and remeasuring all the houses in the District supplied with Potomac water was completed and the inspectors' returns entered upon the records.

The year also witnessed the inauguration of a card index system for complaints, and another for meters.

In 1900 this office was relieved of the duty of inspecting yard hydrants, the work incidental thereto devolving upon the inspector of plumbing. Last year these examinations were reassigned to this office.

During the past year 253 new water meters were installed, and the good work continues. Large consumers and business men in general realize the advantage of paying for exactly what is furnished, and as a rule cheerfully comply with directions from the office to set meters.

The new schedule of water rents adopted March 8, 1902, and now in operation, is working smoothly, demonstrating the wisdom of the elimination of objectionable features and the equitable adjustment of such items as work hardship.

Herewith I also desire to express my gratitude to the employees of this office for the efficient discharge of their varied duties, thereby aiding in carrying on the work of this department in a most gratifying manner.

Five tables are herewith submitted.

Very respectfully,

GEO. F. GREEN,  
*Water Registrar.*

Maj. JOHN BIDDLE,

*Corps of Engineers, U. S. Army,*

*Engineer Commissioner, District of Columbia.*

(Through Captain Harding.)

TABLE I.—*Financial statement from July 1, 1901, to June 30, 1902.*

Revenues:

|   |              |              |
|---|--------------|--------------|
| Balance to the credit of the water fund July 1, 1901..... |              | \$386,922.07 |
| Schedule water rents.....                                 | \$259,491.15 |              |
| Meter water rents.....                                    | 58,913.24    |              |
| Water-main tax.....                                       | 65,962.47    |              |
| Taps.....   | 6,868.16     |              |
| Permits.....  | 1,769.58     |              |
| Miscellaneous.....  | 525.90       |              |
| Water-service connections.....                            | 2,363.52     |              |
|   |              | 385,394.02   |
| Total.....  |              | 782,316.09   |



MISCELLANEOUS UNMETERED WATER TAKERS.

|                                     |       |
|-------------------------------------|-------|
| Asylums.....                        | 4     |
| Bakeries.....                       | 50    |
| Boathouses.....                     | 6     |
| Banks.....                          | 4     |
| Barrooms.....                       | 324   |
| Barber shops.....                   | 238   |
| Freight depot.....                  | 1     |
| Railroad waiting station.....       | 1     |
| Churches.....                       | 69    |
| Carpet-cleaning establishments..... | 4     |
| Dye houses.....                     | 13    |
| Dining and lunch rooms.....         | 149   |
| Dairies.....                        | 44    |
| Engines, gas and steam.....         | 92    |
| Factories.....                      | 22    |
| Flats.....                          | 228   |
| Foundries.....                      | 2     |
| Greenhouses.....                    | 9     |
| Hospitals.....                      | 9     |
| Halls.....                          | 41    |
| Ice companies.....                  | 3     |
| Laundries.....                      | 218   |
| Offices.....                        | 413   |
| Oyster depots.....                  | 11    |
| Photograph galleries.....           | 21    |
| Schools.....                        | 89    |
| Pool rooms.....                     | 41    |
| Printing offices.....               | 20    |
| Stables.....                        | 825   |
| Stores.....                         | 2,682 |
| Shops.....                          | 302   |
| Stone yards.....                    | 10    |
| Shooting galleries.....             | 6     |
| Undertakers.....                    | 17    |
| Wood and coal yards.....            | 25    |
| Warehouses.....                     | 46    |

TABLE V.—Water meters.

REPORT OF THE SUPERINTENDENT OF SEWERS.

WASHINGTON, September 15, 1902.

SIR: I have the honor to submit the following report of the operations of the sewer division for the fiscal year ending June 30, 1902:

Under the appropriation for cleaning and repairing sewers and basins the following-described work was performed:

*Sewers and appurtenances cleaned and repaired.*

Cleaned:

|   |             |         |
|---|-------------|---------|
| Pipe sewers.....                        | feet        | 119,887 |
| Main sewers.....                        | do.         | 20,623  |
| Manholes.....                           |             | 14,477  |
| Catch basins.....                       |             | 117,752 |
| Gravel basins.....                      |             | 54      |
| Basin outlets.....                      |             | 74      |
| Street detritus and sludge removed..... | cubic yards | 10,408  |

## Repaired:

|  |         |       |
|--|---------|-------|
| Pipe sewers constructed .....                        | feet..  | 420   |
| Pipe sewers taken up and relaid .....                | do..... | 1,082 |
| Main sewers repaired .....                           | do..... | 982   |
| Basins constructed .....                             |         | 19    |
| Basins reconstructed .....                           |         | 37    |
| Basins repaired .....                                |         | 158   |
| Flushing basins repaired .....                       |         | 28    |
| Basin tops replaced (artificial and bluestone) ..... |         | 56    |
| Covers (cast iron) replaced .....                    |         | 107   |
| Basins abandoned .....                               |         | 10    |
| Manholes constructed .....                           |         | 19    |
| Manholes reconstructed .....                         |         | 23    |
| Manholes adjusted to grade .....                     |         | 108   |
| Manholes repaired .....                              |         | 461   |
| Manhole frames and covers replaced .....             |         | 91    |
| Manholes covers replaced .....                       |         | 130   |
| Manholes abandoned .....                             |         | 6     |
| Flushing basins abandoned .....                      |         | 1     |
| Alley grates and frames replaced .....               |         | 65    |
| Alley grates replaced .....                          |         | 24    |
| Alley basins repaired .....                          |         | 44    |
| Total number of minor repairs .....                  |         | 493   |
| Total number of jobs of all kinds performed .....    |         | 1,397 |

A section (550 linear feet) of new invert was constructed in the North Capitol street sewer between G and H streets. A contract was entered into with the Warren F. Brenizer Company for the construction of invert in the North Capitol street sewer between H and K streets. Forty-nine artificial basin tops were constructed. The outlets of Anacostia main sewers were cleaned. The outlet of the northeast boundary sewer was repaired.

|   |             |
|---|-------------|
| Amount expended for cleaning catch-basins .....     | \$11,230.90 |
| Amount expended for manual flushing of sewers ..... | 6,958.94    |

The flushing gates at the outlet end of Tiber sewer were operated throughout the year with advantage to the sewer.

The tidal sewers and sediment chambers were cleaned as required.

Two flushing gangs were employed throughout the year flushing pipe sewers.

## MAIN AND PIPE SEWERS.

The sewer in M street NW. between Seventh and Ninth streets, and in square 424 was constructed by W. F. Brenizer under contract 2941. These two sewers were constructed under contracts for the fiscal year 1901.

Sewers were constructed, under contracts, in O street SW., between Delaware avenue and James Creek Canal, square 330, and Florida avenue NW., between Tenth and Eleventh streets, and in B street SW., between Sixth and Tenth streets.

There were constructed by day labor 7,569 linear feet of sewers, varying in size from 6 inches to 4½ feet diameter (43 manholes), divided among 41 jobs, the average length per job being 184.6 linear feet, the average cost per job being \$514.605.

The sewer in Sixteenth street NW., between K and L streets, and in K street NW., between Fifteenth and Sixteenth streets, under contract 2841 with Adam McCandlish, was completed by day labor. Fifteen linear feet pipe sewer and 8 linear feet of bell section were constructed, costing \$216.27, which was charged to the account of Adam McCandlish.

There were also constructed 89 catch-basins, 2,309 linear feet connections, varying in size from 8 to 24 inches in diameter, 6 manholes, and 40.5 linear feet gutter inlet, divided among 64 jobs, the average length of connection per job being 36 linear feet, the average cost per basin job being \$106.962.

## SUBURBAN SEWERS.

Sewers were constructed under contracts for the fiscal year 1901, in Nourse road, between Klinge Ford road and Connecticut avenue; Twenty-fourth street NW., between Massachusetts avenue and Bancroft; Howard avenue, between Anacostia River and Nicholas avenue; Nicholas avenue, from Howard avenue northward; Hartford street, between Ninth and Seventh streets, and Seventh

street, between Hartford and Galena streets, charged to the appropriation for suburban sewers, 1901.

Sewers were constructed under contracts in Eleventh street NW., between Florida avenue and Clifton street; Connecticut avenue, between Cathedral avenue and Rock Creek; west abutment of Massachusetts avenue bridge over Rock Creek, and Eighth street NE., between Hartford and Joliet streets.

There were constructed by day labor 5,609 linear feet pipe sewers, varying in size from 8 to 24 inches in diameter (39 manholes), divided among 36 jobs, the average length per job being 155.8 linear feet, the average cost per job being \$336.31.

#### ASSESSMENT AND PERMIT WORK.

*Permit work.*—There were constructed by day labor 9,212 linear feet of pipe sewers, varying in size from 8 to 21 inches in diameter (47 manholes), divided among 57 jobs, the average length per job being 161.6 linear feet, the average cost per job being \$244.013, and the average cost per foot being \$1.51.

*Assessment system.*—There were constructed by day labor 20,381 linear feet of pipe sewers, varying in size from 8 to 21 inches in diameter (87 manholes), divided among 65 jobs, the average length per job being 313.55 linear feet, the average cost per job being \$430.037, the average cost per foot being \$1.371; 12 catch-basins, 117 linear feet of pipe connections were constructed, divided among 11 jobs, the average length of connection laid per job being 10.64 linear feet, the average cost per job for basins constructed being \$96.72. Two catch-basins were abandoned.

#### AUTOMATIC FLUSHING TANKS.

Five flushing basins were constructed in various locations.

#### ARIZONA AVENUE SEWER.

The sewers in Arizona avenue, under contracts with W. F. Brenizer and R. A. Malone & Co., were completed. The trunk sewer in Arizona avenue is now complete from a point 900 feet north of the Potomac River to a point about 100 feet northward from Tunlaw road.

#### L STREET SEWER.

The sewer in L street NW., between Sixteenth and Twenty-first streets, under contract with P. D. Vinson, was completed.

#### REPLACING OBSTRUCTED SEWERS.

Under the appropriation for "Replacing obstructed sewers, 1901," the sewers in Thirteenth street SW., between B and D streets, Fourteenth street NW., between Rhode Island avenue and N street, and Twelfth street SW., between Virginia avenue and D street, aggregating 3,178 linear feet, were replaced under contracts.

On account of the death of contractor John Jacoby, the east side intercepting sewers, extension of Boundary sewer and the main sewer through the lands of Davidge and Trinity College were not completed.

Section A of the east side intercepting sewer was completed by day labor. New contracts were made for the completion of the other sewers as follows: Section B of the east side intersecting sewer with Andrew Gleeson; extension of the Boundary sewer with Arthur Cowsill, and main sewer through lands of Davidge and Trinity College, with M. F. Talty.

#### SEWAGE PUMPING PLANT.

The tide-gate chamber, outlet section, etc., were in course of construction under contract with Andrew Gleeson. Work still in progress at end of fiscal year.

The pumps and engines for the temporary pumping station were placed in position under contract by the Camden Iron Works.

#### LOW-AREA TRUNK SEWER.

There were constructed 1,007 linear feet of 3 feet 6 inches diameter sewer under contract with E. G. Gummell.









chargeable to appropriations for fiscal years 1901 and 1902.

| Allowance to contractor. | Material furnished. |                 | Cost of inspection. | Cost of repairs to pavements. | Total cost.            | Appropriations.   |
|--------------------------|---------------------|-----------------|---------------------|-------------------------------|------------------------|---|
|                          | Chargeable.         | Not chargeable. |                     |                               |                        |   |
| \$5,177.31               | \$974.89            | \$30.19         | \$212.00            | -----                         | \$6,394.39             | Cleaning and repairing sewers and basins, 1901.   |
| 1,682.77                 | 106.62              | 403.98          | 86.00               | <sup>a</sup> \$128.79         | 2,406.16               | Replacing obstructed sewers, 1901.  |
| 1,774.03                 | 90.09               | 276.14          | 74.00               | 572.84                        | 2,787.10               | Do.   |
| 2,197.62                 | 129.63              | 459.34          | 154.00              | 304.33                        | 3,244.92               | Do.   |
| 2,960.08                 | 965.63              | 238.00          | <sup>b</sup> 290.00 | <sup>c</sup> 1,000.23         | <sup>d</sup> 5,532.94  | Main and pipe sewers, 1901.   |
| 1,728.61                 | 117.60              | 434.85          | 94.00               | 219.41                        | 2,594.47               | Do.   |
| 2,414.69                 | 297.21              | 790.34          | 224.00              | 42.36                         | 3,768.60               | Suburban sewers, 1901.  |
| 2,342.49                 | 600.25              | 11.55           | 398.00              | -----                         | 3,290.29               | Do.   |
| 3,455.11                 | 366.41              | 1,639.78        | 412.00              | 138.19                        | 6,011.49               | Do.   |
| 3,404.70                 | 688.26              | 465.93          | <sup>e</sup> 124.00 | -----                         | 4,682.89               | Do.   |
| 33,062.28                | 15,823.26           | 279.81          | 1,214.25            | -----                         | <sup>d</sup> 50,399.60 | Arizona avenue sewer.   |
| 31,218.48                | 3,419.10            | -----           | 2,319.50            | <sup>f</sup> 87.80            | <sup>d</sup> 37,044.88 | East side intercepting sewer between Twenty-second and A streets NE. and Twelfth and M streets SE.<br>East side intercepting sewer between Twelfth and M streets SE. and pumping station. |
| 65,863.37                | 6,240.80            | -----           | 3,226.62            | <sup>h</sup> 2,130.40         | <sup>d</sup> 77,461.19 |   |
| 14,372.04                | 5,264.96            | 60.40           | <sup>i</sup> 954.00 | <sup>j</sup> 8,454.19         | <sup>d</sup> 29,105.59 | L street sewer.   |
| 462.85                   | 48.00               | 363.12          | 138.25              | -----                         | 1,012.22               | Main and pipe sewers, 1902.   |
| 1,139.26                 | 71.25               | 471.20          | 230.00              | 5.62                          | 1,917.33               | Do.   |
| 747.35                   | 58.86               | 252.34          | 125.50              | -----                         | 1,182.05               | Suburban sewers, 1902.  |
| 11,899.87                | 3,464.68            | 46.73           | 598.00              | -----                         | 16,009.28              | Do.   |
| 3,375.80                 | 725.62              | 1.44            | <sup>k</sup> 180.00 | -----                         | 8,528.28               | Do.   |

<sup>f</sup> Cost of removing water main at Twelfth and M streets SE., charged to contractor.

<sup>g</sup> Work incomplete; payment made on account.

<sup>h</sup> Charged to contractor; includes cost of repairs to car tracks on M street SE.

<sup>i</sup> Includes \$118 charged to contractor.

<sup>j</sup> Includes \$1,141.79 charged to contractor.

<sup>k</sup> Includes \$102 charged to contractor.

TABLE 1.—Statement of sewers constructed under contract

| No. of contract. | Contractor.         | Location.  | Size of sewer.                        | Length of sewer. | Contract price per foot. |
|------------------|---------------------|--|---------------------------------------|------------------|--------------------------|
|                  |                     |  |                                       | <i>Feet.</i>     |                          |
| 2889             | John Jacoby.....    | Extension of boundary.....   | 22 by 23½ feet invert.                | 636              |                          |
|                  |                     |  | 8 feet 6 inches diameter.             | 502              |                          |
| 2939             | R. A. Malone & Co.. | Arizona avenue.....  | 8 feet 3 inches diameter.             | 1,193.4          |                          |
|                  |                     |  | 8 feet diameter ..                    | 1,507.6          |                          |
|                  |                     |  | 7 feet 3 inches diameter.             | 798.5            |                          |
|                  |                     |  | 7 feet diameter ..                    | 401.9            |                          |
|                  |                     |  | Tide-gate chamber.                    | 103.06           |                          |
|                  |                     |  | 12 feet by 10 feet 6 inches, D-shape. | 471.29           |                          |
| 2893             | Andrew Gleeson ..   | { Second street SE., between N street and Anacostia River.                 | Transition section.                   | 50               |                          |
|                  |                     |  | 14 feet by 14 feet 3 inches, D-shape. | 55.05            |                          |
|                  |                     |  | 3 feet 9 inches diameter.             | 892              |                          |
| 3044             | W. F. Brenizer..... | { B street, between Sixth and Tenth streets SW.                            | 3 feet 6 inches diameter.             | 580              |                          |
| 3065             | .....do.....        | { Eighth street NE., between Hartford and Joliet streets.                  | 2.5 by 3.75 .....                     | 372              |                          |
|                  |                     |  | 2 by 3.....                           | 308              |                          |
| 3037             | E. G. Gummel.....   | Low-area trunk sewer (New Jersey avenue, between First and N streets SE.). | 24-inch pipe .....                    | 249              |                          |
|                  |                     |  | 3 feet 6 inches diameter.             | 1,007            |                          |
| 2897             | Camden Iron Works.  | Second street and Georgia avenue SE.                                       | Pumping plant ..                      |                  |                          |
| 3068             | M. F. Talty.....    | Through lands of W. D. Davidge and Trinity College.                        | 5 feet 9 inches....                   | 200              |                          |
|                  |                     |  | 5-foot 9-inch sewer.                  | 362              |                          |
| 2965             | John Jacoby.....    | .....do.....   | 5-foot 9-inch invert.                 | 226              |                          |
|                  |                     |  | 6-foot sewer.....                     | 729              |                          |
|                  |                     |  | 6-foot invert .....                   | 43               |                          |

<sup>a</sup> Includes work previously reported upon.  
<sup>b</sup> Work incomplete; payment made on account.  
<sup>c</sup> Includes \$12 charged to contractor.

geable to appropriations for fiscal years 1901 and 1902—Continued.

| wance<br>con-<br>ctor. | Material fur-<br>nished. |                         | Cost of<br>inspec-<br>tion. | Cost of<br>repairs<br>to pave-<br>ments. | Total cost. | Appropriations.   |
|------------------------|--------------------------|-------------------------|-----------------------------|--|-------------|---|
|                        | Charge-<br>able.         | Not<br>charge-<br>able. |                             |  |             |   |
| 653.39                 | \$8,408.61               | -----                   | \$843.50                    | -----                                    | (a b)       | Extension of boundary sewer.                                  |
| 619.01                 | 13,249.43                | \$817.78                | c1,523.25                   | -----                                    | \$51,709.47 | Arizona avenue, 1902.   |
| 395.10                 | 18,225.40                | -----                   | 2,104.50                    | -----                                    | b79,725.00  | Sewage pumping plant, 1901.                                   |
| 124.95                 | 1,501.83                 | 22.91                   | 464.00                      | a2,221.46                                | 10,334.65   | Main and pipe sewers, 1902.                                   |
| 998.21                 | 1,104.87                 | 215.28                  | 156.00                      | -----                                    | 4,474.36    | Suburban sewers, 1902.  |
| 578.90                 | 1,779.10                 | -----                   | 848.00                      | -----                                    | b17,206.00  | Low-area trunk sewer.   |
| 598.50                 | -----                    | -----                   | -----                       | -----                                    | b9,598.50   | Sewage pumping plant.   |
| 330.29                 | 861.30                   | -----                   | 100.00                      | -----                                    | b3,291.59   | Main through lands of W. D. Da-<br>vidge and Trinity College. |
| 514.15                 | 2,098.30                 | -----                   | 520.00                      | -----                                    | 9,127.45    | Do.   |

d Includes \$56.85 charged to contractor.

e Includes \$15.85, cost c<sup>2</sup> ash pit under boiler.

TABLE 2.—*Statement of sewers laid under the appropriation for assessment*  
VOLUNTARY

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and permit work and whole cost to applicant for fiscal year 1902.

SYSTEM.

| Amount of deposit.  | Cost to District of Columbia. | Cost to applicant. | Total cost.         | Amount returned.    | For whom done.                      | Overseer.                           | Date of completion.         |
|---------------------|-------------------------------|--------------------|---------------------|---------------------|-------------------------------------|-------------------------------------|-----------------------------|
| \$578.21            | \$578.21                      | \$578.21           | \$1,158.42          | -----               | L. P. Shoemaker ..                  | Ward .....                          | Jan. 24, 1902               |
| 12.00               | 6.81                          | 6.81               | 13.62               | <sup>a</sup> \$5.19 | Middaugh & Shannon.                 | Lanigan .....                       | Feb. 17, 1902               |
| 12.00               | 7.33                          | 7.34               | 14.67               | 4.66                | do .....                            | do .....                            | Feb. 27, 1902               |
| 160.00              | 129.15                        | 129.16             | 268.81              | 30.84               | Mrs. Mary Heine..                   | Ward .....                          | May 16, 1902                |
| 235.00              | 135.22                        | 135.23             | 270.45              | 99.77               | G. S. Cooper .....                  | do .....                            | June 2, 1902                |
| 5,691.00            | 3,821.59                      | 3,821.59           | 7,643.18            | 1,869.41            | E. J. Stellwagen...                 | {Lamb<br>Weller<br>Pierce<br>Prince | { <sup>c</sup> May 17, 1902 |
| 175.00              | 175.00                        | 175.00             | 350.00              | -----               | Geo. W. Bulloch ...                 | Prince .....                        | Nov. 2, 1901                |
| <sup>d</sup> 381.10 | 363.83                        | 363.83             | 727.66              | 17.27               | H. N. Taplin .....                  | Thomas .....                        | July 29, 1901               |
| 219.54              | 219.54                        | 219.54             | 439.08              | -----               | Mrs. E. H. G. Slater                | {Condon<br>Prince                   | {Nov. 25, 1901              |
| 85.00               | 85.00                         | 85.00              | 170.00              | -----               | John H. Noland ...                  | Thomas .....                        | Dec. 31, 1901               |
| 190.00              | 181.59                        | 181.59             | 363.18              | 8.41                | C. Schneider's Sons                 | Lanigan .....                       | Feb. 12, 1902               |
| 70.00               | 43.41                         | 43.41              | 86.82               | 26.59               | Jno. Wirchhusen..                   | do .....                            | July 3, 1901                |
| 80.00               | 64.12                         | 64.13              | 128.25              | 15.87               | Middaugh & Shannon.                 | Ward .....                          | Aug. 29, 1901               |
| 171.00              | 139.40                        | 139.40             | 278.80              | 31.60               | Michael Esch .....                  | Prince .....                        | Sept. 30, 1901              |
| 77.00               | 68.29                         | 68.30              | 136.59              | 8.70                | T. F. Schneider, president.         | Ward .....                          | Oct. 2, 1901                |
| 70.00               | 69.76                         | 69.75              | 139.51              | .25                 | F. A. Blundon .....                 | do .....                            | Dec. 7, 1901                |
| 35.00               | 35.00                         | 35.00              | 70.00               | -----               | Isabelle Lenman ..                  | Prince .....                        | Apr. 23, 1902               |
| 98.00               | 82.19                         | 82.20              | 164.39              | 15.80               | Middaugh & Shannon.                 | Ward .....                          | June 2, 1902                |
| 290.00              | 278.40                        | 278.39             | 556.79              | 11.61               | E. Speich .....                     | do .....                            | Mar. 1, 1902                |
| 265.00              | 187.45                        | 187.46             | 374.91              | 77.54               | Middaugh & Shannon.                 | Prince .....                        | May 29, 1902                |
| 100.00              | 89.87                         | 89.87              | <sup>e</sup> 179.74 | 10.13               | Harry Wardman..                     | do .....                            | July 31, 1902               |
| 160.00              | 149.22                        | 149.21             | <sup>e</sup> 298.43 | 10.79               | S. B. Priest .....                  | do .....                            | July 21, 1902               |
| 80.00               | 70.43                         | 70.43              | 140.86              | 9.57                | T. C. Noyes <sup>f</sup> .....      | do .....                            | Apr. 5, 1902                |
| 200.00              | 150.96                        | 150.97             | 301.93              | 49.06               | Washington Sanitary Improvement Co. | Ward .....                          | June 24, 1902               |
| 115.00              | 85.05                         | 85.05              | 170.10              | 29.95               | John Levy .....                     | do .....                            | June 4, 1902                |
| 145.00              | 145.00                        | 145.00             | 290.00              | -----               | Thos. J. Fisher & Co.               | Thomas .....                        | Jan. 24, 1902               |
| 149.00              | 99.45                         | 99.46              | 198.91              | 49.54               | Theo. Harding .....                 | Prince .....                        | Oct. 30, 1901               |
| 122.50              | 75.80                         | 75.81              | 151.61              | 46.69               | C. C. Duncanson ..                  | do .....                            | Do.                         |
| 95.00               | 82.67                         | 82.66              | 165.33              | 12.84               | Middaugh & Shannon.                 | Ward .....                          | Dec. 17, 1901               |
| 95.00               | 80.07                         | 80.08              | 160.15              | 14.92               | Mrs. C. B. Fisk, president.         | do .....                            | June 27, 1902               |
| <sup>g</sup> 91.19  | 87.46                         | 87.47              | 174.93              | 3.72                | Middaugh & Shannon.                 | Lanigan .....                       | Mar. 21, 1902               |
| 180.00              | 179.17                        | 179.16             | 358.33              | .84                 | do .....                            | do .....                            | June 21, 1902               |
| 10.00               | 10.00                         | 10.00              | 20.00               | -----               | Calvin Payne .....                  | Prince .....                        | Aug. 23, 1901               |
| 9.00                | 5.70                          | 5.70               | 11.40               | 3.30                | Terrell Pattison ..                 | Ward .....                          | Sept. 26, 1901              |
| 22.50               | 16.38                         | 16.37              | 32.75               | 6.13                | Theo. Schondau ...                  | Prince .....                        | Nov. 22, 1901               |
| 10.00               | 9.17                          | 9.17               | 18.34               | .83                 | Geo. R. Ferguson..                  | do .....                            | Dec. 24, 1901               |

<sup>d</sup> Balance, \$61.10, brought forward from job 301. W. cost.  
<sup>e</sup> Includes cost of repairs to pavements charged to the appropriation for the fiscal year 1903.  
<sup>f</sup> For Washington Heights Presbyterian Church.  
<sup>g</sup> \$5.19 brought forward from job 36 permit.

TABLE 2.—*Statement of sewers laid under the appropriation for assessment*  
VOLUNTARY

- <sup>a</sup> Balance brought forward from job 44.
- <sup>b</sup> Balance carried forward to job 46.
- <sup>c</sup> Balance brought from job 45.
- <sup>d</sup> Includes cost of repairs to pavements charged to the appropriation for the fiscal year 1901.
- <sup>e</sup> Balance carried forward to fiscal year 1903.
- <sup>f</sup> Work completed in fiscal year 1903.



ind permit work and whole cost to applicant for fiscal year 1902—Continued.

SYSTEM—Continued.

| Amount of deposit. | Cost to District of Columbia. | Cost to applicant. | Total cost. | Amount returned. | For whom done.                      | Overseer. | Date of completion. |
|--------------------|-------------------------------|--------------------|-------------|------------------|-------------------------------------|-----------|---------------------|
| (a)                | \$507.02                      | \$507.03           | \$1,014.05  | (b)              | E. J. Stellwagen                    | Ward      | May 5, 1902         |
| (c)                | 509.05                        | 509.05             | 1,018.10    | \$273.45         | do                                  | do        | May 10, 1902        |
| \$117.68           | 117.67                        | 117.68             | 235.35      |                  | Chas. Schneider                     | Thomas    | Jan. 9, 1902        |
| 30.00              | 17.03                         | 17.04              | 34.07       | 12.96            | Stetson & Rhineland.                | Ward      | Aug. 27, 1901       |
| 24.00              | 17.51                         | 17.51              | 35.02       | 6.49             | Albert McIntosh                     | Thomas    | Oct. 11, 1901       |
| 255.00             | 199.07                        | 199.07             | 398.14      | 55.93            | Thos. J. Fisher & Co.               | Ward      | Oct. 24, 1901       |
| 46.00              | 45.02                         | 45.02              | 90.04       | .98              | Thos. F. Walsh                      | Prince    | Nov. 26, 1901       |
| 175.00             | 127.92                        | 127.93             | 255.85      | 47.07            | L. D. Meline                        | do        | Mar. 25, 1902       |
| 40.00              | 24.74                         | 24.75              | 49.49       | 15.25            | J. B. Larnier                       | do        | Dec. 28, 1901       |
| 79.00              | 71.71                         | 71.71              | 143.42      | 7.29             | S. L. Phillips                      | Lanigan   | June 16, 1902       |
| 145.00             | 89.62                         | 89.63              | 179.25      | 15.37            | S. S. Lutz                          | do        | Apr. 25, 1902       |
| 15.00              | 15.00                         | 15.00              | 30.00       |                  | Mendenhall & Waters.                | do        | May 8, 1902         |
| 100.00             | 69.55                         | 69.56              | 130.11      | 30.44            | L. D. Meline                        | Prince    | May 17, 1902        |
| 144.00             | 105.84                        | 105.84             | 211.68      | 38.16            | W. D. Sullivan                      | do        | June 13, 1902       |
| 40.00              | 29.37                         | 29.37              | 458.74      | 10.63            | L. D. Smoot                         | do        | July 17, 1902       |
| 50.00              | 10.40                         | 10.40              | 20.80       | (c)              | Maj. Frank Wheaton.                 | do        | (f)                 |
| 115.00             | 9167.42                       | 95.97              | 9263.39     | 19.03            | Eleanor H. Griffin et al.           | Ward      | Oct. 17, 1901       |
| 150.00             | 107.67                        | 107.67             | 215.34      | 42.33            | Stilson Hutchins.                   | do        | Aug. 13, 1902       |
| 9.00               | 9.00                          | 9.00               | 18.00       |                  | Washington Sanitary Improvement Co. | Lanigan   | July 2, 1901        |
| 27.50              | 19.10                         | 19.10              | 38.20       | 8.40             | R. A. Chester                       | Prince    | Nov. 16, 1901       |
| 1,833.75           | 236.13                        | 236.13             | 472.26      | (i)              | E. J. Stellwagen                    | Ward      | Apr. 3, 1902        |
| (j)                | 338.09                        | 338.09             | 616.18      | (k)              | do                                  | do        | Apr. 12, 1902       |
| 13,834.97          | 10,811.62                     | 10,740.30          | 21,551.92   | 3,055.07         |                                     |           |                     |

o Cost of manhole, \$71.45, charged to appropriation for cleaning and repairing sewers and basins, 1902, and repaid to appropriation for assessment and permit work, 1902.  
 a Includes \$51.72, cost of repairs to pavements made in fiscal year 1903.  
 i Balance carried forward to job 44.  
 j Balance brought forward from job 42.  
 k Balance carried forward to job 45.

TABLE 3.—Statement of sewers laid under the appropriation for assessment  
ASSESSMENT

| No. of order. | Location.  | Pipe sewers laid (length in feet). |          |          |          |          |          |
|---------------|--|------------------------------------|----------|----------|----------|----------|----------|
|               |  | 8-inch.                            | 10-inch. | 12-inch. | 15-inch. | 18-inch. | 21-inch. |
| 140           | Canal street, property yard.   |                                    |          |          |          |          |          |
| 118           | Adams Mill road, between Lanier avenue and Columbia road.                    |                                    | 176      |          |          |          |          |
| 138           | A street SE., between Fifteenth and Sixteenth streets.                       |                                    |          | 171.5    |          |          |          |
| 100           | Carroll avenue, between Maple avenue and Baltimore and Ohio Railroad.        | 800                                |          |          |          |          |          |
| 189           | Canal street SW., between First and Second streets.                          |                                    |          | 315      |          |          |          |
| 143           | Central avenue NW., between Erie and Huron streets.                          |                                    |          | 150      | 150      | 210      |          |
| 146           | C street SE., between Twelfth and Thirteenth streets.                        |                                    | 217      | 148      |          |          |          |
| 170           | California avenue, between Connecticut avenue and Phelps place (north side). |                                    |          | 330.5    |          |          |          |
| 171           | California avenue, between Connecticut avenue and Phelps place (south side). |                                    |          | 346.28   |          |          |          |
| 112           | Dumbarton avenue NW., between Thirtieth and Thirty-first streets.            |                                    |          | 305      |          |          |          |
| 145           | D street SE., between Thirteenth and Fourteenth streets.                     |                                    | 117      |          |          |          |          |
| 111           | E street SE., between Sixteenth and Seventeenth streets.                     |                                    |          | 341.5    |          |          |          |
| 125           | Eighth and K streets NW. (northeast corner).                                 |                                    |          |          |          |          |          |
| 173           | Eighth street NW., between Trenton and Utica streets.                        |                                    | 188      |          |          |          |          |
| 176           | Eighth street NW., between Des Moines and Erie streets.                      | 392.3                              |          |          |          |          |          |
| 107           | First and B streets NE. (northeast corner).                                  |                                    |          | 3        |          |          |          |
| 108           | Fourteenth and E streets SE. (southwest corner).                             |                                    |          | 30       |          |          |          |
| 109           | Four-and-a-half and L streets SW. (northwest corner).                        |                                    | 6        |          |          |          |          |
| 126           | Fifteenth and East Capitol streets (southwest corner).                       |                                    | 15       |          |          |          |          |
| 128           | Fourteenth and N streets NW. (northeast corner).                             |                                    |          |          |          |          |          |
| 130           | Fifth and M streets NW. (southeast corner).                                  |                                    |          | 27       |          |          |          |
| 133           | Block 1, Fairview Heights.   | 300                                |          |          |          |          |          |
| 134           | Square 592.  |                                    |          | 245      |          |          |          |
| 138           | Fourteenth and H streets NW. (northwest corner).                             |                                    |          | 33       |          |          |          |
| 148           | Fourth street NE., between V and W streets.                                  |                                    |          | 340      |          |          |          |
| 151           | Fourteenth street NE., between Providence and Lansing streets.               |                                    | 360      |          |          |          |          |
| 161           | First and V streets NW. (northeast corner).                                  |                                    |          |          |          |          |          |
| 162           | Square 567.  |                                    | 63       |          |          |          |          |
| 165           | F street, between Thirteenth and Elliott streets NE.                         |                                    |          | 181.35   |          |          |          |
| 172           | Florida avenue NE., between Twelfth and Thirteenth streets.                  |                                    |          | 285.9    |          |          |          |
| 129           | G street SW., between Sixth and Seventh streets.                             |                                    | 145      |          |          |          |          |
| 144           | Grant street, between Nichols avenue and Arthur street (Anacostia).          |                                    | 91       | 172      |          |          |          |
|               | Harvard street, between Sherman and Brightwood avenues NW.                   |                                    |          |          |          | 810.3    |          |
| 113           | Harvard street NW., between Eleventh and Thirteenth streets.                 |                                    |          | 306      |          |          |          |
| 114           | do.  |                                    | 193      |          |          |          |          |
| 152           | Half street SE., between L and M streets (west side).                        |                                    | 275      |          |          |          |          |

<sup>a</sup> 27 corner and 27 side artificial basin tops constructed.  
<sup>b</sup> Work begun in fiscal year 1901.  
<sup>c</sup> Repairs to pavements made in fiscal year 1903 included in cost of work.  
<sup>d</sup> The excessive cost of this work was due to the large amount of rock excavation.

# OPERATIONS OF THE ENGINEER DEPARTMENT, D. C. 127

permit work and whole cost to applicant for fiscal year 1902—Continued.

ITEM.

| ns<br>t-<br>ct- | Manholes. | Branches. | Cost to Dis-<br>trict of<br>Columbia. | Cost to<br>property<br>owners. | Total cost.           | Overseers.     | Date of com-<br>pletion.                    |
|-----------------|-----------|-----------|---------------------------------------|--------------------------------|-----------------------|----------------|---|
|                 | 1         | 4         | \$99.46                               | \$99.45                        | \$230.58<br>198.91    | Thomas<br>Ward | <sup>a</sup> Jan. 27, 1902<br>Aug. 16, 1901 |
|                 |           | 10        | 95.74                                 | 95.75                          | 191.49                | Thomas         | Nov. 6, 1901                                |
|                 | 2         | 19        | 316.63                                | 316.64                         | 633.27                | Prince         | <sup>b</sup> July 12, 1901                  |
|                 | 2         | 3         | 233.83                                | 233.84                         | 467.67                | Ward           | Oct. 27, 1901                               |
|                 | 3         | 5         | 532.56                                | 532.57                         | 1,065.13              | do             | Dec. 10, 1901                               |
|                 | 2         | 18        | 291.54                                | 291.55                         | 583.09                | Thomas         | Dec. 12, 1901                               |
|                 | 2         | 2         | 267.23                                | 267.22                         | 534.45                | Ward           | <sup>c</sup> July 21, 1901                  |
|                 | 2         | 3         | 301.34                                | 301.35                         | 602.69                | do             | Do. <sup>c</sup>                            |
|                 | 2         | 7         | 494.92                                | 494.93                         | <sup>d</sup> 989.85   | Prince         | Oct. 21, 1901                               |
|                 | 1         | 8         | 107.91                                | 107.91                         | 215.82                | Thomas         | Mar. 14, 1902                               |
|                 | 2         | 8         | 252.24                                | 252.25                         | 504.49                | Ward           | Oct. 8, 1901                                |
| 1               |           |           |                                       |                                | 58.89                 | Lanigan        | Sept. 29, 1901                              |
|                 | 1         | 5         | 102.99                                | 102.99                         | 205.98                | Ward           | June 12, 1902                               |
|                 | 2         | 19        | 203.18                                | 203.18                         | 406.36                | do             | June 18, 1902                               |
| 1               |           |           |                                       |                                | 58.81                 | Lanigan        | Aug. 1, 1901                                |
| 1               |           |           |                                       |                                | 79.62                 | do             | Sept. 11, 1901                              |
| 1               |           |           |                                       |                                | 56.60                 | do             | July 27, 1901                               |
| 1               |           |           |                                       |                                | 71.53                 | do             | Sept. 30, 1901                              |
|                 |           |           |                                       |                                | <sup>e</sup> 1871     | do             | Sept. 28, 1901                              |
| 1               |           |           |                                       |                                | 88.55                 | do             | Oct. 30, 1901                               |
|                 | 1         | 12        | 130.63                                | 130.64                         | 261.27                | Ward           | Oct. 19, 1901                               |
|                 | 1         | 6         | 157.62                                | 157.63                         | 315.25                | do             | Oct. 12, 1901                               |
| 1               |           |           |                                       |                                | 110.79                | Lanigan        | Nov. 22, 1901                               |
|                 | 1         | 1         | 179.00                                | 179.00                         | 358.00                | Prince         | Dec. 15, 1901                               |
|                 | 1         | 6         | 297.73                                | 297.74                         | 595.47                | do             | Jan. 16, 1902                               |
| 1               |           |           |                                       |                                | 50.85                 | Lanigan        | Apr. 5, 1902                                |
|                 |           | 6         | 46.84                                 | 46.85                          | 93.69                 | do             | Apr. 25, 1902                               |
|                 | 1         | 2         | 151.93                                | 151.92                         | 303.85                | Thomas         | May 5, 1902                                 |
|                 |           | 5         | 144.22                                | 144.22                         | 288.44                | Ward           | June 30, 1902                               |
|                 | 1         | 5         | 106.30                                | 106.31                         | 212.61                | Prince         | Oct. 26, 1901                               |
|                 | 2         | 4         | 184.52                                | 184.52                         | 369.04                | do             | Mar. 14, 1902                               |
|                 | 2         | 22        | 947.29                                | 947.30                         | <sup>e</sup> 1,894.59 | Beach          | Oct. 11, 1901                               |
|                 | 2         | 11        | 383.11                                | 383.12                         | 766.23                | Thomas         | Aug. 26, 1901                               |
|                 | 1         | 11        | 255.13                                | 255.14                         | 510.27                | do             | Sept. 4, 1901                               |
|                 | 1         | 5         | 154.04                                | 154.03                         | 308.07                | Lanigan        | Mar. 27, 1902                               |

<sup>c</sup> Work performed at request of surface department.

<sup>f</sup> One catch basin abandoned.

<sup>e</sup> Work performed under contract No. 3009 by Lyons Bros.

TABLE 3.—Statement of sewers laid under the appropriation for assessment

ASSESSMENT

| No. of<br>order | Location.   | Pipe sewers laid (length in feet). |          |          |          |          |          |
|-----------------|---|------------------------------------|----------|----------|----------|----------|----------|
|                 |   | 8-inch.                            | 10-inch. | 12-inch. | 15-inch. | 18-inch. | 21-inch. |
| 153             | Half street SE., between L and M streets (east side).                   |                                    | 275.8    |          |          |          |          |
| 164             | Harwood avenue, between Maple avenue and Spruce street.                 |                                    | 69       | 94       |          |          |          |
| 178             | Half street SE., between I and K streets.                               |                                    |          | 256      |          |          |          |
| 179             | Half street SE., between K and L streets (east side).                   |                                    | 186      |          |          |          |          |
| 157             | Half street SW., between O and P streets.                               |                                    |          | 290      |          |          |          |
| 160             | Highland avenue, west of Connecticut avenue.                            | 404                                |          |          |          |          |          |
| 161             | Jackson street, between Pierce and Adams streets (Anastasia).           |                                    |          | 360      |          |          |          |
| 162             | Jefferson, from Taylor street eastward.                                 |                                    |          | 267.4    | 183.5    |          |          |
| 166             | Jackson street, between Pierce and Adams streets.                       |                                    |          | 505      |          |          |          |
| 129             | I street NE., between Tenth and Eleventh streets.                       |                                    |          | 108.5    |          |          |          |
| 166             | Ingraham street, between Brightwood avenue and Thirteenth street.       |                                    | 186      |          |          |          |          |
| 127             | Kenesaw avenue, between Sixteenth and Eighteenth streets NW.            |                                    |          | 264      |          |          |          |
| 132             | Kenesaw avenue, between Fifteenth and Sixteenth streets SW.             |                                    |          | 89.5     |          |          |          |
| 177             | Kentucky avenue, between D and E streets SE.                            |                                    | 201.5    | 198.5    |          |          |          |
| 110             | Lansing street (Brookland), between Thirteenth and Fourteenth streets.  |                                    | 236.5    |          |          |          |          |
| 159             | do  | 323.5                              |          |          |          |          |          |
| 158             | Lincoln avenue NE., between Randolph and S streets.                     |                                    |          | 208      |          |          |          |
| 174             | Lowell street NW., between Seventeenth and Eighteenth streets.          |                                    | 181      | 162.5    |          |          |          |
| 115             | M street NE., between North Capitol and I streets (south side).         |                                    |          | 402      |          |          |          |
| 116             | do  |                                    | 384.5    |          |          |          |          |
| 141             | Massachusetts avenue, from Tenth street westward, NW.                   |                                    | 111      |          |          |          |          |
| 119             | Morgan avenue NW., between Lamar place and Spring road.                 |                                    |          |          |          | 180      | 15       |
| 163             | New York avenue, between Twenty-first street and Virginia avenue NW.    |                                    |          | 172      |          |          |          |
| 165             | New Jersey avenue, between D and E streets SE.                          |                                    |          | 108.5    |          |          |          |
|                 | Princeton street NW., between Brightwood and Sherman avenues.           |                                    |          | 787.5    |          |          |          |
| 149             | Providence street NE., between Thirteenth and Fourteenth streets.       |                                    |          | 660      |          |          |          |
| 131             | R street, between Thirteenth and Fourteenth streets NW.                 |                                    |          |          |          |          |          |
| 147             | Rock Creek Church road, between Whitney avenue and Spring road.         |                                    |          | 150      | 482.5    |          |          |
| 156             | Randolph street NW., between North Capitol and I streets.               |                                    | 138.4    | 170      |          |          |          |
| 175             | Rock Creek Church road, between New Hampshire avenue and Eighth street. |                                    |          | 135      |          |          |          |
| 122             | Seventh street and Rhode Island avenue (southwest corner).              |                                    |          |          |          |          |          |
| 142             | Scott street NW., between Valley and Canton streets.                    |                                    | 208.5    |          |          |          |          |
| 159             | Seventh street NW., between Vermilion and Umatilla streets.             | 151.5                              |          |          |          |          |          |
| 135             | Sixteenth street SE., between A and B streets.                          |                                    |          |          |          | 384      |          |
| 155             | Sixth street NW., between K street and Massachusetts avenue.            |                                    | 85.8     |          |          |          |          |
| 163             | Sixth and K streets NE. (northeast corner).                             |                                    |          |          |          | 3        |          |
| 169             | South street NW., between Thirty-first and Thirty-second streets.       |                                    | 200      |          |          |          |          |
| 117             | Twenty-ninth street NW., between Q and Roads street.                    |                                    |          | 117      |          |          |          |

a Work performed under contract No. 3009 by Lyon Bros.

permit work and whole cost to applicant for fiscal year 1902—Continued.

EM—Continued.

| is<br>t- | Manholes. | Branches. | Cost to Dis-<br>trict of<br>Columbia. | Cost to<br>property<br>owners. | Total cost. | Overseers.    | Date of com-<br>pletion. |
|----------|-----------|-----------|---------------------------------------|--------------------------------|-------------|---------------|--------------------------|
|          | 1         | 6         | \$131.14                              | \$131.15                       | \$262.29    | Lanigan ..... | Mar. 21, 1902            |
|          | 2         | 9         | 135.79                                | 135.78                         | 271.57      | do .....      | June 27, 1902            |
|          |           | 2         | 125.57                                | 125.58                         | 251.15      | Ward .....    | June 21, 1902            |
|          | 1         | 4         | 103.75                                | 103.74                         | 213.49      | do .....      | Do.                      |
|          | 1         | 4         | 263.42                                | 263.42                         | 526.84      | Prince .....  | Mar. 21, 1902            |
|          | 2         | 8         | 220.42                                | 220.43                         | 440.85      | Ward .....    | Mar. 26, 1902            |
|          | 3         | 7         | 367.40                                | 367.40                         | 734.80      | do .....      | Aug. 27, 1901            |
|          | 2         | 10        | 412.41                                | 412.40                         | 824.81      | do .....      | Aug. 1, 1901             |
|          | 3         | 8         | 405.65                                | 405.66                         | 811.31      | do .....      | Aug. 28, 1901            |
|          | 1         | 2         | 84.84                                 | 84.85                          | 169.69      | do .....      | Oct. 8, 1901             |
|          |           | 19        | 106.39                                | 106.40                         | 212.79      | do .....      | May 12, 1901             |
|          | 1         | 2         | 166.54                                | 166.54                         | 333.08      | do .....      | Oct. 4, 1901             |
|          | 1         | 1         | 81.59                                 | 81.60                          | 163.19      | do .....      | Oct. 5, 1901             |
|          | 2         | 14        | 296.89                                | 296.90                         | 593.79      | do .....      | June 30, 1901            |
|          | 1         | 12        | 234.17                                | 234.16                         | 468.33      | do .....      | Sept. 28, 1901           |
|          |           | 12        | 197.51                                | 197.52                         | 395.03      | Prince .....  | Jan. 23, 1902            |
|          | 1         | 2         | 137.50                                | 137.51                         | 275.01      | Ward .....    | Mar. 15, 1902            |
|          | 2         | 7         | 233.24                                | 233.24                         | 466.48      | Prince .....  | June 19, 1902            |
|          | 2         |           | 288.60                                | 288.60                         | 577.20      | Ward .....    | Oct. 14, 1901            |
|          | 2         | 6         | 254.73                                | 254.73                         | 509.46      | do .....      | Oct. 12, 1901            |
|          |           | 4         | 89.72                                 | 89.72                          | 179.44      | do .....      | Dec. 8, 1901             |
|          | 1         | 5         | 373.58                                | 373.59                         | 747.17      | do .....      | Aug. 26, 1901            |
|          | 1         | 3         | 126.87                                | 126.86                         | 253.73      | do .....      | Aug. 15, 1901            |
|          | 1         | 6         | 118.83                                | 118.84                         | 237.67      | Thomas .....  | July 12, 1901            |
|          | 2         | 11        | 684.73                                | 684.73                         | a 1,369.46  | Beach .....   | Sept. 7, 1901            |
|          | 2         | 3         | 487.91                                | 487.92                         | 975.83      | Prince .....  | Jan. 8, 1902             |
|          |           |           |                                       |                                | b c 3.07    | Lanigan ..... | Oct. 1, 1901             |
|          | 3         | 4         | 516.47                                | 516.48                         | 1,032.95    | Ward .....    | Dec. 31, 1901            |
|          | 2         | 4         | 248.82                                | 248.83                         | 497.65      | do .....      | June 27, 1902            |
|          | 1         | 8         | 104.80                                | 104.80                         | 209.60      | Lanigan ..... | June 17, 1902            |
| 1        |           |           |                                       |                                | 74.32       | do .....      | Sept. 9, 1901            |
|          | 1         | 18        | 138.13                                | 138.13                         | 276.26      | Prince .....  | Nov. 8, 1901             |
|          | 1         | 3         | 83.28                                 | 83.27                          | 166.55      | Ward .....    | Mar. 20, 1902            |
|          | 2         | 8         | 490.57                                | 490.57                         | 981.14      | Thomas .....  | Nov. 5, 1901             |
|          | 1         | 5         | 78.14                                 | 78.14                          | 156.28      | Lanigan ..... | Mar. 15, 1902            |
| 1        |           |           |                                       |                                | 55.67       | do .....      | Apr. 23, 1902            |
|          | 2         | 18        | 254.07                                | 254.07                         | 508.14      | Prince .....  | June 7, 1902             |
|          |           | 5         | 97.95                                 | 97.95                          | 195.90      | do .....      | Sept. 18, 1901           |

Work performed at request of surface department. c One catch basin abandoned.

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TABLE 3.—Statement of sewers laid under the appropriation for assessment  
ASSESSMENT

| No. of order | Location.  | Pipe sewers laid (length in feet). |          |          |          |          |          |
|--------------|--|------------------------------------|----------|----------|----------|----------|----------|
|              |  | 8-inch.                            | 10-inch. | 12-inch. | 15-inch. | 18-inch. | 24-inch. |
| 124          | Truxtun Circle and North Capitol street, between Florida avenue and Quincy street. |                                    |          | 227.1    |          |          |          |
| 187          | Thirtieth street NW, between Dumbarton avenue and O street.                        |                                    | 209      |          |          |          |          |
| 168          | Third street NE., between V and W streets.   |                                    | 98.5     |          |          |          |          |
| 104          | Vine street, between Baltimore and Ohio Railroad and Maple avenue (Takoma Park).   | 353                                |          |          |          |          |          |
| 123          | Whitney avenue NW., about 300 feet east of Brightwood avenue.                      |                                    |          |          |          |          |          |
| 167          | W street NE., between Third and Fourth streets.                                    |                                    |          | 116      |          |          |          |
| 154          | Wisconsin avenue NW., between Milwaukee and Newark streets.                        |                                    | 425.4    |          |          |          |          |
| Total .....  |  | 2,527.30                           | 7,208.70 | 9,772.58 | 816      | 1,597.20 | 13       |

TABLE 4.—

<sup>a</sup> Balance carried forward to 6 permit.  
<sup>b</sup> Extra excavation for the construction of sewer.  
<sup>c</sup> Connecting drain with main sewer under contract with private parties, deposit made for District of Columbia inspection.

# OPERATIONS OF THE ENGINEER DEPARTMENT, D. C. 131

and permit work and whole cost to applicant for fiscal year 1902—Continued.

SYSTEM—Continued.

<sup>a</sup> Work performed at request of surface department.

Whole cost.

| Amount of deposit. | Total cost. | Amount returned. | For whom done.               | Overseer.     | Date of completion.        |
|--------------------|-------------|------------------|------------------------------|---------------|----------------------------|
| \$304.00           | \$242.90    | (a)              | H. N. Taplin .....           | Thomas .....  | <sup>b</sup> July 21, 1901 |
| 40.00              | 38.86       | \$1.15           | S. S. Shedd & Bro. ....      | Condon .....  | July 17, 1901              |
| 180.00             | 106.00      | 74.40            | Bailey & Aiken .....         | Lanigan ..... | Apr. 2, 1901               |
| 24.00              | 24.00       | .....            | M. F. Talty .....            | Lamb .....    | June 14, 1902              |
| 38.00              | 36.04       | 1.96             | J. R. Quinter .....          | Lanigan ..... | Dec. 18, 1901              |
| 35.00              | 34.89       | .11              | D. S. Williamson .....       | Thomas .....  | Dec. 5, 1901               |
| 215.00             | 116.08      | (d)              | W. W. Kehlenger, agent ..... | Lanigan ..... | (e)                        |
| 45.00              | 44.12       | .....            | S. S. Shedd & Bro. ....      | Prince .....  | Apr. 3, 1902               |
| 90.00              | 59.25       | 30.75            | Mrs. Carrie Madison .....    | Ward .....    | May 15, 1902               |
| 971.00             | 701.68      | 109.25           |                              |               |                            |

<sup>d</sup> Balance of deposit carried forward to fiscal year 1903.

<sup>e</sup> Work completed in fiscal year 1903.





*and pipe sewers.*

1

2

3

4

d Shed constructed to be used in making artificial basin tops.  
e Includes \$8.04, cost of work by plumber.  
f Awaiting bill for repairs to pavements.



Continued.

| Manholes. | Basins. | Branches. | 6-inch cast iron pipe. | 4-foot diameter. | Gutter inlet. | Ball section. | Cost of materials. | Cost of labor. | Cost of repairs to pavements. | Total cost. |
|-----------|---------|-----------|------------------------|------------------|---------------|---------------|--------------------|----------------|-------------------------------|-------------|
| 1         |         |           |                        |                  |               |               | \$62.61            | \$57.02        |                               | \$109.63    |
| 2         |         |           |                        |                  |               |               | 126.60             | 139.50         | \$38.18                       | 304.27      |
|           | 1       |           |                        |                  |               |               | 28.91              | 50.91          |                               | 79.82       |
|           | 2       |           |                        |                  |               |               | 56.81              | 53.19          |                               | 110.00      |
|           | 1       |           |                        |                  |               |               | 26.71              | 18.67          |                               | 45.38       |
|           | 1       |           |                        |                  |               |               | 31.89              | 34.80          |                               | 66.69       |
|           |         |           |                        |                  |               |               | 94.95              | 280.00         | 55.19                         | 430.23      |
|           | 1       |           |                        |                  |               |               | 20.75              | 23.13          |                               | 43.88       |
|           | 1       |           |                        |                  |               |               | 26.08              | 14.78          | 39.67                         | 80.53       |
|           | 1       |           |                        |                  |               |               | 29.89              | 42.14          | 10.98                         | 83.01       |
| 2         |         |           |                        |                  |               |               | 49.78              | 89.35          |                               | 139.13      |
| 2         |         | 7         |                        |                  |               |               | 377.51             | 954.12         | 442.73                        | 1,774.36    |
|           | 2       |           |                        |                  |               |               | 51.07              | 93.49          | 2.20                          | 146.76      |
| 1         |         |           |                        |                  |               |               | 61.38              | 118.80         |                               | 180.17      |
| 1         |         | 12        |                        |                  |               |               | 106.16             | *307.98        | 29.39                         | 433.53      |
|           |         |           |                        |                  |               |               | 5.79               | 22.11          |                               | 27.90       |
|           | 1       |           |                        |                  |               |               | 50.78              | 119.08         | 39.68                         | 209.54      |
|           | 1       |           |                        |                  |               |               | 89.83              | 50.47          |                               | 90.30       |
|           | 3       |           |                        |                  |               |               | 81.66              | 79.35          |                               | 161.01      |
|           |         | 6         |                        |                  |               |               | 73.33              | b399.38        | 29.33                         | 472.03      |
| 3         |         | 13        |                        |                  |               |               | 219.51             | 553.12         | 217.20                        | 990.83      |
| 1         |         | 25        |                        |                  |               |               | 151.13             | 396.65         | 303.30                        | 851.08      |
| 1         |         | 9         |                        |                  |               |               | 275.61             | 964.07         | 60.15                         | 1,299.83    |
| 1         |         | 8         |                        |                  |               |               | 175.81             | 502.89         | 87.10                         | 715.80      |
|           |         | 3         |                        |                  |               |               | 123.78             | 295.59         | 45.12                         | 440.49      |
| 1         |         |           |                        |                  |               |               | 58.14              | 174.27         | 14.78                         | 247.19      |
|           |         | 3         |                        |                  |               |               | 90.05              | 143.10         | 110.98                        | 344.13      |
| 1         |         | 144       |                        |                  |               |               | 112.88             | c280.80        | 63.95                         | 457.73      |
|           | 1       |           |                        |                  |               |               | 34.79              | 34.32          |                               | 69.11       |
|           | 2       |           |                        |                  |               |               | 67.77              | 90.30          |                               | 158.07      |
|           | 1       |           |                        |                  |               |               | 41.57              | 49.04          |                               | 90.61       |
|           | 1       |           |                        |                  |               |               | 32.09              | 41.78          | 4.00                          | 77.86       |
|           | 1       |           |                        |                  |               |               | 38.38              | 39.92          |                               | 78.30       |
|           | 1       |           |                        |                  |               |               | 55.44              | 125.39         | 72.30                         | 253.13      |
| 63        | 1       | 2         |                        |                  |               |               | 98.17              | 130.42         |                               | 228.59      |
|           | 2       | 2         |                        |                  |               |               | 33.43              | 51.74          |                               | 85.17       |
|           | 2       | 22        |                        |                  |               |               | 187.98             | d803.26        | 62.51                         | 1,053.75    |
|           | 1       |           |                        |                  |               |               | 32.23              | 31.57          |                               | 63.80       |
|           | 1       |           |                        |                  |               |               | 30.08              | 23.37          |                               | 53.45       |
|           | 1       |           |                        |                  |               |               | 35.92              | 45.78          | 5.51                          | 87.21       |
|           | 2       |           |                        |                  |               |               | 60.30              | 66.93          |                               | 127.23      |
| 1         |         |           |                        |                  |               |               | 25.60              | 42.46          | 11.23                         | 79.29       |
|           | 2       |           |                        |                  |               |               | 42.33              | 53.96          |                               | 96.29       |
|           | 1       |           |                        |                  |               |               | 23.43              | 30.28          |                               | 53.71       |

uden \$11.25, cost of work by plumber.

dIncludes \$10.80, cost of work by plumber.

TABLE 5.—*Main and pipe*

| No. of order. | Location.   | Pipe sewers laid (length in feet). |         |          |          |
|---------------|---|------------------------------------|---------|----------|----------|
|               |   | 6-inch.                            | 8-inch. | 10-inch. | 12-inch. |
| 586           | Sixteenth street NW., crossing K street .....   |                                    |         |          |          |
| 587           | Sixteenth street NW., between I and K streets .....   |                                    |         |          |          |
| 588           | Sixteenth street NW., between H and I streets .....   |                                    |         |          | 192      |
| 597           | Sixteenth and Rosedale streets NE. (southeast corner) .....   |                                    |         |          | 60       |
|               | Sixteenth street NW., between K and L streets, and K, between Fifteenth and Sixteenth streets ..... |                                    |         |          |          |
| 502           | Tenth and Frankfort streets NE. (northeast corner) .....  |                                    |         |          | 2        |
| 542           | Thirteenth and R streets NW. (northwest corner) .....   |                                    |         |          | 9        |
| 543           | Third and Elm streets NW. (northeast corner) .....  |                                    |         |          | 33       |
| 545           | Twenty-third and N streets NW. (southeast corner) .....   |                                    |         |          | 21       |
| 551           | Thirteenth street NW., between Lydecker avenue and Lamar place .....                                |                                    |         |          | 30       |
| 555           | Tennessee avenue and Fifteenth street NE. (intersection) .....                                      |                                    |         | 12       |          |
| 557           | Twenty-fourth and S streets NW. (southeast, northeast, and northwest corners) .....                 |                                    |         |          | 90       |
| 561           | Twenty-second and Decatur streets (northwest and northeast corners) .....                           |                                    |         |          | 12       |
| 558           | Third and E streets SW. (southwest corner) .....  |                                    |         |          | 15       |
| 568           | Twenty-fourth and Bancroft streets NW .....   |                                    |         |          | 60       |
| 588           | Block No. 2, Trinidad .....   |                                    |         |          |          |
| 589           | Thirteenth street and Pennsylvania avenue SE. (southwest corner) .....                              |                                    |         | 99       |          |
| 604           | Square 1003, Twelfth and Thirteenth and H and Wylie streets NE .....                                | 261                                |         | 21       | 408      |
| 583           | Vermont avenue, between L street and Thomas circle .....  |                                    |         |          |          |
| 576           | Water street NW., between Twenty-fifth and Twenty-sixth streets .....                               |                                    |         |          |          |
| 599           | Washington street, just east of Monroe (Anacostia) (south side) .....                               |                                    |         |          | 6        |
| 600           | Washington street, just east of Monroe (Anacostia) (north side) .....                               |                                    |         |          | 9        |

—Continued.

PAVED

udes \$33.84, cost of work by plumber.  
 pletion of sewer, charged to appropriation for main and pipe sewers 1901, cost of same  
 educted from amounts due Adam McCandlish on contract 2841.  
 rk completed in fiscal year 1908.

TABLE 6.—Sew

| No. of order. | Location.   | Pipe sewers laid (length in feet). |          |          |
|---------------|---|------------------------------------|----------|----------|
|               |   | 8-inch.                            | 10-inch. | 12-inch. |
| 214           | Binney street NW., from Fourteenth street westward.....                     |                                    |          |          |
| 217           | Brightwood avenue, between Princeton and Bismarck streets.....              |                                    |          |          |
| 214           | Brightwood avenue NW., between Scott avenue and Rock Creek Church road..... |                                    |          |          |
| 212           | Columbia street NW., between Sherman avenue and Eleventh street.....        |                                    |          |          |
| 210           | Columbia street NW., from Fourteenth street westward.....                   |                                    |          |          |
| 213           | Block 30, Columbian College lands.....                                      |                                    |          |          |
| 225           | Connecticut avenue NW., between Le Roy place and California avenue.....     |                                    |          |          |
| 229           | California avenue and Phelps place (intersection).....                      |                                    | 72       |          |
| 231           | Connecticut avenue, between California and Wyoming avenues.....             |                                    |          |          |
| 211           | Decatur place NW., between Florida avenue and Twenty-second street.....     |                                    |          |          |
| 212           | do.....   |                                    |          |          |
| 235           | Decatur place NW., between Twenty-second and Twenty-third streets.....      |                                    |          |          |
| 216           | Eighteenth street NW., between Grant and Lowell streets.....                |                                    |          |          |
| 217           | Eleventh and Clifton streets (intersection).....                            |                                    |          |          |
| 222           | Eighth street NW., between Trenton and Utica streets.....                   |                                    | 142      |          |
| 223           | Eighteenth and Lowell streets (intersection).....                           |                                    |          |          |
| 220           | First street NW., crossing Albany street.....                               |                                    |          |          |
| 215           | Grant street, Anacostia, from Nichols avenue eastward.....                  |                                    |          |          |
| 226           | Harvard street NW., between Eleventh and Thirteenth streets.....            |                                    |          |          |
| 221           | Harewood avenue NW., near north side Maple avenue.....                      |                                    |          |          |
| 220           | Highland avenue NW., west of Connecticut avenue.....                        | 67                                 |          |          |
| 223           | Ingraham street, between Brightwood avenue and Thirteenth street.....       |                                    | 154      |          |
| 223           | Kramer street NE., between Sixteenth and Seventeenth streets.....           |                                    |          |          |
| 201           | Le Droit avenue, between Seaton and Thomas streets NW.....                  |                                    |          |          |
| 224           | Lansing street, crossing Thirteenth street (Brookland).....                 |                                    | 33       |          |
| 212           | Lincoln avenue, crossing at Randolph street.....                            |                                    |          |          |
| 222           | Lincoln avenue NE., from T street northward.....                            |                                    |          |          |
| 220           | Maple avenue, between Baltimore and Ohio R. R. and Carroll avenue.....      |                                    | 39       |          |
| 222           | Ontario avenue, from Erie street southward.....                             |                                    |          |          |
| 227           | Q street NW., between Truxton circle and Florida avenue.....                |                                    |          |          |
| 225           | School street NW., between Grant and Park streets.....                      |                                    | 115      |          |
| 219           | Seventh street NW., between Vermillion and Umatilla streets.....            | 220                                |          |          |
| 227           | Third street NE., between V and W streets.....                              | 83                                 |          |          |
| 222           | Thirteenth and Ingraham streets NW.....                                     |                                    | 54       |          |
| 224           | W street NE., between Third and Fourth streets.....                         |                                    |          |          |
| 225           | W street NE., between Third and Fourth streets (south side).....            |                                    |          |          |
| Total.....    |   | 389                                | 65       | 64       |

sewers, 1902.

| Sewers laid (length in feet). |          |          | Man-holes. | Branches. | Cost of materials. | Cost of labor.      | Cost of repairs to pavements. | Total cost.          |
|-------------------------------|----------|----------|------------|-----------|--------------------|---------------------|-------------------------------|----------------------|
| 18-inch.                      | 21-inch. | 24-inch. |            |           |                    |                     |                               |                      |
| 376                           |          |          | 2          | 5         | \$92.89<br>273.66  | \$254.51<br>713.99  | \$18.50<br>54.10              | \$385.90<br>1,041.75 |
| 146                           |          |          |            | 1         | 101.76             | 188.87              | <sup>a</sup> 16.57            | 307.20               |
| 69                            | 81       |          | 3          |           | 211.21             | 360.95              |                               | 572.16               |
|                               | 163      | 30       |            | 2         | 205.85             | 524.97              |                               | 730.82               |
| 177                           |          |          |            |           | 116.95             | <sup>b</sup> 302.61 |                               | 419.56               |
| 313                           |          |          | 2          | 2         | 252.82             | 508.18              |                               | 861.00               |
|                               |          |          | 1          |           | 48.66              | 76.98               | <sup>a</sup> 10.96            | 181.60               |
|                               |          |          |            | 6         | 181.13             | <sup>c</sup> 581.63 |                               | 762.76               |
|                               |          | 33       | 1          |           | 57.05              | 69.15               |                               | 126.20               |
|                               | 465      |          | 3          |           | 463.18             | 663.21              |                               | 1,126.39             |
|                               |          |          | 1          |           | 210.67             | 387.85              |                               | 548.52               |
|                               |          |          | 1          |           | 192.38             | 523.99              |                               | 721.37               |
|                               |          |          | 1          |           | 28.98              | 64.19               |                               | 93.19                |
|                               |          |          | 2          |           | 47.14              | 94.85               |                               | 141.99               |
|                               |          |          | 1          |           | 44.48              | 70.51               |                               | 114.99               |
|                               |          |          | 1          |           | 47.78              | 56.98               |                               | 104.71               |
|                               |          |          | 1          |           | 58.87              | 94.46               | 5.04                          | 157.87               |
| 24                            |          |          | 1          |           | 39.01              | 104.42              |                               | 143.43               |
| 39                            |          |          | 1          |           | 49.12              | 63.44               |                               | 112.56               |
|                               |          |          | 1          | 2         | 35.72              | 63.64               |                               | 99.36                |
|                               |          |          | 1          | 2         | 74.15              | 106.48              |                               | 180.63               |
| 195                           | 9        |          | 2          |           | 170.80             | 369.18              |                               | 539.98               |
|                               |          |          | 1          |           | 20.24              | 27.23               | 12.47                         | <sup>d</sup> 59.94   |
|                               |          |          | 1          |           | 43.50              | 75.06               |                               | 118.56               |
|                               |          |          | 1          |           | 39.53              | 56.68               |                               | 96.21                |
| 9                             |          | 381      | 2          | 3         | 496.87             | 564.87              |                               | 1,061.24             |
|                               |          |          | 1          |           | 34.86              | 44.84               |                               | <sup>d</sup> 79.70   |
| 159                           |          |          | 1          |           | 119.10             | 167.53              |                               | 286.63               |
|                               |          |          | 1          |           | 49.88              | 87.75               | 8.86                          | 146.49               |
|                               |          |          | 1          | 3         | 47.73              | 94.01               |                               | 141.74               |
|                               |          |          | 1          | 4         | 68.67              | 164.24              |                               | 232.91               |
|                               |          |          |            | 1         | 23.62              | 56.38               |                               | 80.00                |
|                               |          |          | 1          |           | 35.15              | 49.47               |                               | 84.62                |
|                               |          |          | 1          | 1         | 66.76              | 96.65               |                               | 163.41               |
|                               |          |          | 1          |           | 74.60              | 87.69               |                               | 162.29               |
| 1,507                         | 718      | 444      | 39         | 38        | 4,118.72           | 7,861.89            | 126.50                        | 12,107.11            |

<sup>a</sup> Repairs to pavements made in fiscal year 1903.  
<sup>b</sup> Includes \$20.09 cost of work by plumber.  
<sup>c</sup> Includes \$30.03 cost of work by plumber.  
<sup>d</sup> Work begun in fiscal year 1901.

TABLE 7.—*Miscellaneous appropriations in*

| No. of order.       | Location.  | Pipe sewers laid (length in feet). |         |          |          |          |          |
|---------------------|--|------------------------------------|---------|----------|----------|----------|----------|
|                     |  | 6-inch.                            | 8-inch. | 10-inch. | 12-inch. | 15-inch. | 24-inch. |
| 1043                | Arizona avenue and Joliet street (intersection) .....                          |                                    |         |          |          |          |          |
| 1000                | Arizona avenue NW., near Tunlaw road .....                                     |                                    |         |          |          |          |          |
| 1038                | Bladensburg road, between H and Levis streets .....                            |                                    |         |          |          | 30       | 3        |
| 1038                | Bunker Hill road, between Fourth and Seventh streets .....                     |                                    |         |          |          |          |          |
|                     | Canal street SE., between M and N streets .....                                |                                    |         |          |          |          |          |
| 1038                | California avenue NW., from Connecticut avenue westward .....                  |                                    |         |          | 414      |          |          |
| 1017                | College street NW., about 300 feet east of Fourth street .....                 |                                    |         |          |          |          |          |
| 1, T. C. & N. J. A. | E street SE., just east of Canal street .....                                  |                                    |         |          | 15       |          |          |
| 1015                | Eleventh street NW., between L street and Massachusetts avenue .....           |                                    |         |          |          |          |          |
| 1030                | Sixth and L streets SE. (northwest corner) .....                               |                                    |         |          | 3        |          |          |
| 1033                | Second street and Massachusetts avenue NE .....                                |                                    | 6       |          |          |          |          |
| 1027                | East side interceptor, between Twelfth and M streets and pumping station ..... |                                    |         |          |          |          |          |
| 1034                | do .....   |                                    |         |          |          |          |          |
| 1033                | E street SE., between Tenth and Eleventh streets .....                         |                                    |         |          | 3        |          |          |
| 1001                | Fifth and F streets NE. (southwest and southeast corners) .....                |                                    |         |          | 3        | 3        |          |
| 1023                | Fifteenth street NE., between E and H streets .....                            |                                    |         | 12       | 36       |          |          |
| 1007                | G street NE., between Second and Third streets .....                           | 18                                 |         |          | 45       |          |          |
| 1009                | Fifteenth and F streets NE. (southwest corner) .....                           |                                    |         |          |          |          |          |
| 1014                | G street, just west of Thirteenth street NE .....                              |                                    |         |          | 33       |          |          |
| 1024                | H street and Delaware avenue NE. (southeast corner) .....                      |                                    |         |          | 18       |          |          |
| 1028                | Harrison and Monroe streets (Anacostia) .....                                  |                                    |         |          |          |          |          |
| 1029                | Kirby street and New York avenue NW. (northwest corner) .....                  |                                    |         |          |          |          |          |
| 1022                | L street NW., between New Hampshire avenue and Twenty-third street .....       |                                    |         |          | 15       |          |          |
| 1018                | M street NW., between Eighth and Ninth streets .....                           |                                    |         |          | 33       |          |          |
| 1013                | O street, south side, just west of Ninth street NW .....                       |                                    |         | 45       |          |          |          |
| 1008                | P street and New Jersey avenue NW. (southwest and northwest corners) .....     |                                    |         |          | 24       |          |          |
| 1005                | South Carolina avenue and Eleventh street SE. (northeast corner) .....         |                                    |         |          | 6        |          |          |
| 1042                | Second street SW., between C street and Virginia avenue .....                  |                                    |         |          | 51       |          |          |
| 1010                | Sixth and I streets NE. (southwest corner) .....                               |                                    |         |          | 9        |          |          |
| 1011                | Sixth and H streets NE. (northwest corner) .....                               |                                    |         |          | 3        |          |          |
| 1012                | Thirteenth and G streets NE. (southeast corner) .....                          |                                    |         |          | 3        |          |          |
| 1031                | Fourth and Elm streets NW. (southeast and southwest corners) .....             |                                    |         |          | 3        |          |          |
| 1030                | Fifteenth street SE. south of K street .....                                   |                                    |         |          |          |          |          |
| 1026                | Twelfth and M streets SE .....   |                                    |         |          |          |          |          |
| 1041                | G street just east of Twenty-third street NW .....                             |                                    |         |          | 21       |          |          |
| 1019                | North Capitol and O streets (northwest corner) .....                           |                                    |         |          |          |          |          |
| 1040                | Seventeenth street NW., between T street and Florida avenue .....              |                                    |         |          | 21       |          |          |
| 1006                | Lansing street NE., between Twelfth and Thirteenth streets .....               | *257                               |         |          |          |          |          |
| 1037                | Maryland avenue SW., between Third and Four-and-a-half streets .....           |                                    | 39      |          | 75       |          |          |
| 1020                | Nineteenth street NW., between R street and Florida avenue .....               |                                    |         |          | 6        | 3        |          |
| 1035                | New Jersey avenue SE. (at foot of) .....                                       |                                    |         |          |          |          |          |
|                     | Second and N streets SE .....  |                                    |         |          |          |          |          |
|                     | do .....   |                                    |         |          |          |          |          |

<sup>a</sup>Constructing bulkhead across mouth of sewer.

<sup>b</sup>Work begun in fiscal year 1901.

<sup>c</sup>Constructing temporary office building.

<sup>d</sup>Includes \$18.55, cost of work by plumber.

<sup>e</sup>Special manhole constructed.

<sup>f</sup>Cost of this work charged to amounts due J. K. Murphy on contract No 2446.

<sup>g</sup>Watching excavation, cost to be charged to account of Jno. Jacoby.

<sup>h</sup>Completing sewer, cost to be charged to account of Jno. Jacoby.

<sup>i</sup>Removing construction materials and derrick from Water street, cost to be charged to account of Jno. Jacoby.



*102; work performed by day labor.*

repairing sewer, cost charged to account of Jno. Jacoby.  
constructing drain around engine house.  
digging space in front of discharge conduit.  
includes \$48.76, cost of work by plumber.  
constructing building for temporary sewage pumping plant.  
includes \$31.15, cost of work by plumber.  
constructing foundation for pumps and engines at sewage pumping plant.

142    OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

TABLE 7.—*Miscellaneous appropriations in fiscal year*

<sup>a</sup> Constructing subdrain around Banneker school building.

<sup>b</sup> Constructing drain.

*1902; work performed by day labor—Continued.*

2

2

2

• Watching sewer trench, cost charged to account of Jno. Jacoby.





# 146 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

## NUMBER OF MANHOLES AND HAND-HOLES BUILT.

|  | Manholes. | Hand-holes |
|--|-----------|------------|
| United States Electric Lighting Co.....  | 97        | 117        |
| Chesapeake and Potomac Telephone Co..... | 2         |            |
| Potomac Electric Power Co.....           | 4         | 9          |
| District of Columbia.....                | 21        |            |
| City and Suburban Railway Co.....        | 1         |            |
| United States Government.....            | 7         |            |
| Western Union Telegraph Co.....          | 1         |            |
| Postal Telegraph and Cable Co.....       | 2         |            |
| Total.....                               | 135       | 126        |

## SUMMARY OF CONDUITS IN USE JUNE 30, 1902.

| No. of duct. | Brightwood Rail-<br>way Co. |       | District of Co-<br>lumbia. |        | Private conduits |      |
|--------------|-----------------------------|-------|----------------------------|--------|------------------|------|
|              | Conduit.                    | Duct. | Conduit.                   | Duct.  | Conduit.         | Duct |
|              | Feet.                       | Feet. | Feet.                      | Feet.  | Feet.            | Feet |
| 1.....       |                             |       | 8,568                      | 6,568  | 30               | 3    |
| 2.....       | 18                          | 28    | 80                         | 160    | 227              | 44   |
| 4.....       |                             |       | 44                         | 176    |                  |      |
| 6.....       |                             |       | 711                        | 4,266  |                  |      |
| 8.....       | 176                         | 1,408 |                            |        |                  |      |
| Total.....   | 189                         | 1,484 | 7,403                      | 11,170 | 257              | 47   |

# OPERATIONS OF THE ENGINEER DEPARTMENT, D. C. 147

SUMMARY OF CONDUITS IN USE JUNE 30, 1902—Continued.

| No. of duct. | Conduit. |         | Duct.  |         | Conduit. |           | Duct. |       |
|--------------|----------|---------|--------|---------|----------|-----------|-------|-------|
|              | Feet.    | Feet.   | Feet.  | Feet.   | Feet.    | Feet.     | Feet. | Feet. |
|              |          |         |        |         | 68,164   | 68,164    |       |       |
|              |          |         |        |         | 149,405  | 208,810   |       |       |
|              |          |         |        |         | 238      | 708       |       |       |
|              | 21,051   | 86,644  | 11,040 | 44,160  | 129,357  | 517,488   |       |       |
|              |          |         | 5,117  | 80,702  | 81,282   | 487,692   |       |       |
|              |          |         |        |         | 111      | 777       |       |       |
|              |          |         | 13,248 | 105,984 | 54,886   | 439,088   |       |       |
|              |          |         |        |         | 7,402    | 68,618    |       |       |
|              |          |         | 8,080  | 80,800  | 8,869    | 88,690    |       |       |
|              | 11,361   | 136,572 | 77     | 924     | 55,891   | 670,692   |       |       |
|              |          |         |        |         | 586      | 7,718     |       |       |
|              |          |         | 1,880  | 20,880  | 7,861    | 104,054   |       |       |
|              |          |         |        |         | 68       | 1,080     |       |       |
|              |          |         |        |         | 9,982    | 158,912   |       |       |
|              |          |         |        |         | 698      | 10,612    |       |       |
|              |          |         | 2,214  | 88,452  | 8,790    | 68,280    |       |       |
|              |          |         |        |         | 111      | 2,220     |       |       |
|              |          |         | 184    | 2,948   | 9,243    | 208,346   |       |       |
|              |          |         |        |         | 4,507    | 108,168   |       |       |
|              |          |         |        |         | 804      | 7,600     |       |       |
|              |          |         |        |         | 280      | 7,280     |       |       |
|              |          |         | 87     | 2,486   | 2,185    | 59,808    |       |       |
|              |          |         |        |         | 53       | 1,590     |       |       |
|              |          |         |        |         | 485      | 15,580    |       |       |
|              |          |         |        |         | 8,880    | 139,680   |       |       |
|              |          |         | 198    | 7,834   | 198      | 7,834     |       |       |
|              |          |         |        |         | 1,568    | 68,560    |       |       |
|              |          |         |        |         | 424      | 18,656    |       |       |
|              |          |         |        |         | 749      | 41,944    |       |       |
|              |          |         |        |         | 7        | 406       |       |       |
|              |          |         |        |         | 282      | 18,048    |       |       |
|              |          |         |        |         | 76       | 5,472     |       |       |
| total        | 89,042   | 228,216 | 42,080 | 340,980 | 596,789  | 3,679,976 |       |       |

## REPORT OF THE INSPECTOR OF PLUMBING.

WASHINGTON, D. C., August 25, 1902.

I have the honor to submit the twentieth annual report of work performed by the plumbing inspection division for the fiscal year ending June 30, 1902: On January 26, 1902, this office was under the direction of Mr. Charles B. Ball as it had been since November 20, 1894. On January 26, Mr. Ball tendered his resignation to the Board of Commissioners, District of Columbia, in order to accept an appointment in New York City as chief sanitary inspector of the tenement-house department. Since February 6, having been appointed to fill the position made vacant by the resignation of Mr. Ball, the responsibilities of the office have devolved upon myself.





As soon as the required permission has been granted for the location of such constructions, no time should be lost in securing an appropriation for the preparation of necessary plans and the construction of at least two such stations. The structures, in my opinion, should be of the underground type, hidden from view, and provision made for care takers to be in attendance at all times. Small fees should be charged for the use of the closets and also for the use of towels and soap in the lavatories, but no fees should be charged for the use of the urinals. By such an arrangement the toilet rooms would be maintained in a high condition of neatness, and from the fees collected it is believed they could be made nearly or quite self-sustaining.

EMPLOYEES PAID FROM GENERAL APPROPRIATIONS.

The services of a draftsman were necessary in this division, and one was employed continuously between July 1 and December 20, 1901, a period of one hundred and forty-four days, at \$4 per diem, \$406 being paid from appropriation for repairs to and changes in plumbing, public schools, 1902, and \$170 from appropriation for repairing and replacing heating apparatus, public schools, 1901 and 1902. A draftsman was also employed continuously between April 14 and June 30, 1902, a period of sixty-seven days, at \$3.50 per diem, \$63 being paid from appropriation for drainage of lots, health department, 1902, and \$171.50 from appropriation for repairs to and changes in plumbing, public schools, 1902.

Very respectfully,

O. L. INGALLS,  
*Inspector of Plumbing.*

Maj. JOHN BIDDLE,  
*Corps of Engineers, U. S. Army,*  
*Engineer Commissioner, District of Columbia.*  
(Through Capt. Chester Harding.)

REPORT OF THE PLUMBING BOARD.

WASHINGTON, August 25, 1902.

SIR: I have the honor to submit the following statement of the work of the plumbing board during the fourth year of its organization:

There were held during the year 23 sessions, most of which were devoted to the examination of candidates for master plumbers' licenses and the discussion of certain sections of the plumbing regulations with a view to determining the advisability of revision of the same.

The following changes in the personnel of the board were ordered by the Commissioners, District of Columbia: Mr. A. M. Lawson, whose term expired on June 30, 1901, was reappointed a member. Mr. T. V. Noonan was appointed a member to take effect on July 1, 1901, vice Mr. Thomas Humphrey, whose term expired on June 30, 1901. Mr. R. A. O'Brien was appointed a member on February 6, 1902, and subsequently elected as secretary of the board, vice Mr. Charles B. Ball, who resigned on January 26, 1902.

The total number of examinations conducted was 31. The number of original candidates examined was 15, of whom 5 passed. The number of those reexamined was 16, of whom 9 passed.

The examinations throughout the year were by the use of written questions and answers.

JOS. R. QUINTER, *President.*  
RICHARD A. O'BRIEN, *Secretary.*

Maj. JOHN BIDDLE,  
*Corps of Engineers, U. S. Army,*  
*Engineer Commissioner, District of Columbia.*  
(Through Capt. Chester Harding.)

REPORT OF THE INSPECTOR OF BUILDINGS.

WASHINGTON, August 12, 1902.

SIR: I have the honor to submit herewith the annual report covering the transactions of the building department for the fiscal year ending June 30, 1902, together with recommendations for the fiscal year ending June 30, 1904.























# 160 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

*Repairs and improvements to school buildings and grounds, 1902—Continued.*

| SUMMARY                                   |             |
|---|-------------|
| Total accounted for.....                  | \$42,155.31 |
| Horses and driver.....                    | 72.00       |
| Office salaries.....                      | 1,120.00    |
| Salary of superintendent of janitors..... | 1,000.00    |
| Hardware, lumber, etc., in stock.....     | 4,000.00    |
| Miscellaneous and emergency work.....     | 2,000.00    |
| Total.....                                | \$42,155.31 |

The requisition blanks which were sent to the various schools in April were filled out, enumerating the necessary repairs, and returned to this office in June. When estimates were made the requisitions showed over \$100,000 worth of repairs asked for, and consequently only the most urgent cases could be attended to.

To give an idea of the character of the repairs made I have enumerated the largest items under the heads of carpentering, painting, and tinning, viz:

*Carpentering.* Teachers' retiring rooms were built at 6 schools, as follows: Blair, Blake, Brent, Giddings, Twining, and Hilton. New flooring, aggregating





































service reservoir. The maps of the United States Coast and Geodetic Survey have been used with excellent results as an aid in past work, but they are on too small a scale for a very detailed study and a larger set of working maps should be acquired as soon as possible.

Very respectfully,

WM. P. RICHARDS,  
Assistant Engineer.

Maj. JOHN BIDDLE,  
Corps of Engineers, U. S. Army,  
Engineer Commissioner, D. C.

REPORT OF THE SUPERINTENDENT OF PROPERTY.

WASHINGTON, August 21, 1902.

SIR: I have the honor to forward herewith detailed statement in quadruplicate as of July 1, 1902, showing expenditures of the property division of the engineer department for the fiscal year ending June 30, 1902.

|  |              |
|--|--------------|
| 1. Construction material purchased .....   | \$268,084.60 |
| 2. Miscellaneous purchases .....   | 93,616.50    |
| 3. List of employees other than those on per annum rolls, and amounts paid to each ..... | 20,795.30    |
| Total .....  | 382,496.40   |

Deliveries and payments under contract for furnishing paving and concrete sand, screened pebbles, curbing, Portland and natural cement are still in course of execution, and therefore this report is incomplete as to those items.

Very respectfully,

R. D. SIMMS,  
Superintendent of Property.

Maj. JOHN BIDDLE,  
Corps of Engineers, U. S. Army,  
Engineer Commissioner, D. C.

STATEMENT NO. 1.—Showing amount of construction material purchased for issue from the District of Columbia property yards during the year ending June 30, 1902.

Terra-cotta sewer p  
24-inch sewer pi  
21-inch sewer pi  
18-inch sewer pi  
15-inch sewer pi  
12-inch sewer pi  
10-inch sewer pi  
8-inch sewer pi  
6-inch sewer pi  
8-inch to 6-inch r  
6-inch sewer ben  
Vitrified invert sew  
Repressed vitrified  
Repressed vitrified  
Sidewalk paving br  
Asphalt paving bloc  
Broken stone.....  
Red sewer bricks..  
Paving and concrete  
Screened sand.....  
Screened pebbles...  
Curbing.....  
Bluestone basin top  
Portland cement...  
Natural cement....  
Castings.....  
Water boxes.....  
Siphons, 6-inch....  
Hauling broken sto  
Storage on cement..  
Freight on broken stone.....  
Hauling.....  
Freight.....

Total .....

178      OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

STATEMENT NO. 2.—*Showing miscellaneous purchases made during the year ending June 30, 1902.*

|   |           |   |             |
|---|-----------|---|-------------|
| Awnings purchased and repaired .....    | \$11.90   | Lumber .....                              | \$16,083.02 |
| Badges, and repairs to .....            | 8.25      | Lime .....                                | 75.96       |
| Bags .....                              | 8.50      | Oils, illuminating, engine, etc .....     | 1,488.36    |
| Blank forms, printing and binding ..... | 4,070.73  | Paints, glass, and oils .....             | 4,084.35    |
| Blocks, pulley .....                    | 9.98      | Photographic supplies .....               | 27.50       |
| Bicycle repairs .....                   | 13.00     | Pitch .....                               | 231.50      |
| Blue prints .....                       | 147.25    | Plows, and repairs to .....               | 230.54      |
| Books, made to order .....              | 549.21    | Plumbers' supplies .....                  | 9,544.71    |
| Boots, rubber .....                     | 141.50    | Saddlery .....                            | 901.37      |
| Castings .....                          | 1,947.88  | Quartz .....                              | 21.34       |
| Drugs .....                             | 142.50    | Rails, iron .....                         | 977.56      |
| Chemists' supplies .....                | 65.80     | Stationery .....                          | 2,230.82    |
| Clocks .....                            | 7.00      | Surveyors' instruments, and re-           |             |
| Dry goods .....                         | 107.79    | pairs to .....                            | 688.20      |
| Engine, machinery, etc .....            | 579.40    | Stone, rubble, etc .....                  | 1,329.82    |
| Electrical supplies .....               | 1,122.08  | Subscriptions, magazines, etc .....       | 16.00       |
| Fertilizer .....                        | 53.60     | Tickets, street-car .....                 | 227.30      |
| Fuel .....                              | 10,709.98 | Tinware .....                             | 2,028.90    |
| Furnace .....                           | 100.00    | Trees, maple .....                        | 80.00       |
| Furniture .....                         | 1,192.91  | Tools, and repairs to .....               | 570.04      |
| Forage .....                            | 8,441.63  | Typewriters and repairs .....             | 327.30      |
| Groceries .....                         | 73.41     | Valves and casings .....                  | 5,742.40    |
| Hose .....                              | 1,485.71  | Wagons, carts, buggies, and repairs ..... | 5,314.00    |
| Hardware .....                          | 7,799.48  | Water meters .....                        | 498.30      |
| Horses .....                            | 515.00    |   |             |
| Hydrants .....                          | 884.00    |   |             |
| Ice .....                               | 48.90     |   |             |
|   |           | Total .....                               | 93,616.30   |

STATEMENT NO. 3.—*Showing list of employees other than those on the per annum rolls, amount paid to each, and the various appropriations from which such payments were made.*

|                               | Rate.  | Assessment and permit work. |         | Improve-ment and repairs. | Cleaning and re-paring sewers. and basins. | Main and pipe sewers. | Subur-ban sewers. | Arizona avenue sewer. |
|-------------------------------|--------|-----------------------------|---------|---------------------------|--|-----------------------|-------------------|-----------------------|
|                               |        | Streets.                    | Sewers. |                           |  |                       |                   |                       |
| R. D. Simms .....             | \$5.00 | \$35.00                     |         | \$207.30                  |  | \$84.00               |                   |                       |
|                               | 6.00   |                             |         |                           |  |                       |                   |                       |
| C. T. Shoemaker .....         | 4.50   |                             |         |                           |  |                       |                   |                       |
|                               | 5.00   | 54.00                       |         | 216.54                    |  | 63.00                 |                   |                       |
| J. A. McDannel .....          | 4.00   | 52.00                       |         | 198.21                    |  | 56.00                 |                   |                       |
| H. M. Spencer .....           | 4.00   | 28.00                       |         | 198.20                    |  | 56.00                 |                   |                       |
| W. H. Edgar .....             | 3.50   | 50.00                       |         | 198.21                    |  | 56.00                 |                   |                       |
|                               | 4.00   |                             |         |                           |  |                       |                   |                       |
| H. B. van der Las .....       | 2.50   | 35.50                       |         | 148.65                    |  | 42.00                 |                   |                       |
|                               | 3.00   |                             |         |                           |  |                       |                   |                       |
| Chas. Hume .....              | 3.00   | 24.00                       |         | 132.82                    |  | 42.00                 |                   |                       |
| Wm. Morris .....              | 1.75   |                             |         | 92.42                     | \$19.25                                    | 28.00                 |                   |                       |
|                               | 2.00   |                             |         |                           |  |                       |                   |                       |
| Geo. Arrington .....          | 1.75   | 21.00                       |         |                           |  |                       |                   |                       |
| A. T. Batts .....             | 1.75   | 21.00                       |         | 83.21                     | 19.25                                      | 28.23                 | \$3.50            | \$0.17                |
| Wm. Donaldson .....           | 4.00   | 52.00                       |         | 198.21                    | 104.00                                     | 61.71                 | 11.87             | .55                   |
| H. M. Dickinson .....         | 3.25   | 32.50                       |         | 160.55                    | 84.50                                      | 50.14                 | 9.64              | 39.32                 |
| W. H. Voss .....              | 3.00   | 30.00                       |         | 148.65                    | 78.00                                      | 42.00                 |                   |                       |
| W. J. W. Grey .....           | 3.00   | 30.00                       |         | 144.15                    | 78.00                                      | 46.28                 | 8.90              | 31.42                 |
| G. T. Hammer .....            | 2.00   | 24.00                       |         |                           | 51.56                                      | 16.83                 | 61.61             |                       |
| J. K. Hammer .....            | 2.00   |                             |         |                           |  | 2.85                  | 29.45             | 36.77                 |
| J. Wm. McConchie .....        | 2.50   |                             |         | 136.51                    | 27.50                                      | 38.57                 | 7.42              | 32.85                 |
|                               | 3.25   | 61.38                       |         |                           |  |                       |                   |                       |
| Blacksmiths .....             | 2.00   |                             |         |                           | 135.33                                     | 92.99                 | 223.68            | 69.83                 |
|                               | 2.50   |                             |         |                           |  |                       |                   |                       |
| Wheelwright and painter ..... | 2.50   |                             |         |                           |  | 2.75                  | 5.71              | .57                   |
|                               | 2.50   |                             |         |                           |  |                       |                   |                       |
| Labor .....                   | 1.75   | 173.25                      |         | 68.37                     | 484.50                                     | 125.30                | 570.78            | 153.92                |
|                               | 1.50   |                             |         |                           |  |                       |                   |                       |
| Total .....                   |        | 771.63                      |         | 2,422.00                  | 1,081.80                                   | 932.65                | 932.65            | 373.10                |

STATEMENT NO. 3.—Showing list of employees, etc.—Continued.

|                                     | Rate.  | Low<br>area<br>trunk<br>sewer. | Bound-<br>ary<br>sewer. | Paving<br>road-<br>ways<br>under<br>permit<br>system. | Contin-<br>gent<br>expenses<br>engineer<br>stables. | Exten-<br>sion<br>of high-<br>service<br>system. | Pump-<br>ing ex-<br>penses<br>and pipe<br>distribu-<br>tion. | Pur-<br>chase<br>and<br>repair<br>pumps. |
|-------------------------------------|--------|--------------------------------|-------------------------|---|---|--|--|--|
| R. D. Simms.....                    | \$5.00 |                                |                         |   |   | \$144.00   | \$78.00  |  |
|                                     | 6.00   |                                |                         |   |   |  |  |  |
| C. T. Shoemaker.....                | 4.50   |                                |                         |   |   | 114.50   | 60.00  |  |
|                                     | 5.00   |                                |                         |   |   |  |  |  |
| J. A. McDannel.....                 | 4.00   |                                |                         |   |   | 96.00  | 52.00  |  |
| H. M. Spencer.....                  | 4.00   |                                |                         |   |   | 44.00  | 52.00  |  |
| W. H. Edgar.....                    | 3.50   |                                |                         |   |   | 96.00  | 52.00  |  |
|                                     | 4.00   |                                |                         |   |   |  |  |  |
| H. B. van der Las.....              | 2.50   |                                |                         |   |   | 72.00  |  |  |
|                                     | 3.00   |                                |                         |   |   |  |  |  |
| Chas. Hume.....                     | 3.00   |                                |                         |   |   | 70.50  | 36.00  |  |
| Wm. Morris.....                     | 1.75   |                                |                         |   |   | 46.00  | 15.00  |  |
|                                     | 2.00   |                                |                         |   |   |  |  |  |
| Geo. Arrington.....                 | 1.75   |                                |                         |   |   |  |  |  |
| A. T. Batts.....                    | 1.75   | \$2.57                         |                         |   |   | 40.25  | 29.75  |  |
| Wm. Donaldson.....                  | 4.00   | 8.48                           | \$52.00                 |   |   | 44.00  |  |  |
| H. M. Dickinson.....                | 3.25   | 6.89                           |                         |   |   | 78.00  |  |  |
| W. H. Voss.....                     | 3.00   |                                |                         |   |   | 72.00  |  |  |
| W. J. W. Grey.....                  | 3.00   | 6.36                           | 30.00                   |   |   | 30.00  |  |  |
| G. T. Hammer.....                   | 2.00   |                                |                         | \$26.44   |   |  |  |  |
| J. K. Hammer.....                   | 2.00   | 4.23                           |                         |   | \$26.44   | 52.00  | 26.00  |  |
| J. Wm. McConchie.....               | 2.50   | 5.29                           |                         | 32.76   |   | 57.50  |  |  |
|                                     | 3.25   |                                |                         |   |   |  |  |  |
| Blacksmiths.....                    | 2.00   | 58.38                          | 117.00                  | 73.07   | 74.75   | 32.50  | 74.75  | \$42.25                                  |
|                                     | 2.50   |                                |                         |   |   |  |  |  |
| Wheelwright and<br>and painter..... | 2.50   | 52.49                          | 65.00                   |   |   |  |  |  |
|                                     | 2.50   |                                |                         |   |   |  |  |  |
| Labor.....                          | 1.75   | 115.63                         | 193.50                  | 158.55  | 204.00  | 68.50  | 106.00   | 7.75                                     |
|                                     | 1.50   |                                |                         |   |   |  |  |  |
| Total.....                          |        | 280.32                         | 457.50                  | 290.82  | 304.75  | 1,157.75   | 581.50   | 50.00                                    |

|                                 | Rate.  | General<br>expenses<br>electrical<br>depart-<br>ment. | Parking<br>commis-<br>sion. | East side inter-<br>cepting sewer.   |   | Sewage<br>pumping<br>station. | Repairs<br>to<br>streets,<br>avenues,<br>and<br>alleys. | Side-<br>walks<br>and<br>curbs. |
|---------------------------------|--------|---|-----------------------------|--|---|-------------------------------|---|---------------------------------|
|                                 |        |   |                             | Between<br>Twenty-<br>second<br>and A<br>NE. and<br>Twelfth<br>street<br>SE. | From<br>Twelfth<br>street<br>SE. to<br>pumping<br>station,<br>foot of<br>New<br>Jersey<br>avenue. |                               |   |                                 |
| R. D. Simms.....                | \$5.00 |   |                             |  |   |                               | \$345.53  | \$18.12                         |
|                                 | 6.00   |   |                             |  |   |                               |   |                                 |
| C. T. Shoemaker.....            | 4.50   |   |                             |  |   |                               | 167.40  | 15.10                           |
|                                 | 5.00   |   |                             |  |   |                               |   |                                 |
| J. A. McDannel.....             | 4.00   |   |                             |  |   |                               | 243.03  | 12.08                           |
| H. M. Spencer.....              | 4.00   |   |                             | \$52.00  |   |                               | 267.03  | 12.08                           |
| W. H. Edgar.....                | 3.50   |   |                             |  |   |                               | 243.02  | 12.08                           |
|                                 | 4.00   |   |                             |  |   |                               |   |                                 |
| H. B. van der Las.....          | 2.50   |   |                             |  |   | \$3.00                        | 143.27  | 9.06                            |
|                                 | 3.00   |   |                             |  |   |                               |   |                                 |
| Chas. Hume.....                 | 3.00   |   |                             |  |   |                               | 127.66  | 8.36                            |
| Wm. Morris.....                 | 1.75   |   |                             |  |   |                               | 90.29   | 6.04                            |
|                                 | 2.00   |   |                             |  |   |                               |   |                                 |
| Geo. Arrington.....             | 1.75   |   |                             |  |   |                               |   |                                 |
| A. T. Batts.....                | 1.75   |   |                             |  |   |                               | 83.57   | 5.28                            |
| Wm. Donaldson.....              | 4.00   |   |                             |  |   | 52.00                         | 191.02  | 12.08                           |
| H. M. Dickinson.....            | 3.25   |   |                             |  |   | 42.25                         | 164.95  | 9.06                            |
| W. H. Voss.....                 | 3.00   |   |                             |  |   |                               | 143.26  | 9.06                            |
| W. J. W. Grey.....              | 3.00   |   |                             |  |   |                               | 143.27  | 9.06                            |
| G. T. Hammer.....               | 2.00   |   |                             |  |   |                               | 61.57   |                                 |
| J. K. Hammer.....               | 2.00   | \$28.00   |                             | 4.48   | \$20.77   | 26.00                         |   |                                 |
| J. Wm. McConchie.....           | 2.50   |   |                             |  |   |                               | 119.90  | 11.65                           |
|                                 | 3.25   |   |                             |  |   |                               |   |                                 |
| Blacksmiths.....                | 2.00   |   | \$45.50                     | 11.83  | 54.92   | 116.92                        | 161.63  |                                 |
|                                 | 2.50   |   |                             |  |   |                               |   |                                 |
| Wheelwright and<br>painter..... | 2.50   |   |                             |  |   | 76.57                         |   |                                 |
|                                 | 2.50   |   |                             |  |   |                               |   |                                 |
| Labor.....                      | 1.75   | 65.63   | 3.75                        | 34.82  | 148.15  | 149.58                        | 503.60  | 15.90                           |
|                                 | 1.50   |   |                             |  |   |                               |   |                                 |
| Total.....                      |        | 93.63   | 49.25                       | 103.13   | 223.84  | 466.32                        | 3,200.00  | 195.00                          |







182 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

|  |     |
|--|-----|
| Roadways, repair   | 7   |
| Sewer, connect down spout with                               | 1   |
| Sewer, enter   | 1   |
| Sidewalks, haul and drive across                             | 62  |
| Sidewalks, lay   | 47  |
| Sidewalks, occupy, for business purposes                     | 9   |
| Sidewalks, repair  | 54  |
| Steps on parkings, erect, replace, or repair                 | 297 |
| Stop-cock boxes, gas, adjust to grade                        | 24  |
| Streets, grade   | 4   |
| Trees, remove  | 12  |
| Trees, whitewash   | 35  |
| Trees, attach guys to  | 4   |
| Tree space, pave   | 4   |
| Walls, building retaining, on parking                        | 25  |
| Water tables, lay and repair                                 | 71  |
| Wires, string overhead                                       | 115 |
| Wires, overhead connections (U. S. E. L. and P. E. P. Co.'s) | 24  |
| Wires, overhead telephone connections                        | 215 |

RAILROAD COMPANIES.

|  |    |
|--|----|
| Anacostia and Potomac River Railroad Company | 12 |
| Brightwood                                   | 1  |
| Capital                                      | 1  |
| Capital Traction                             | 5  |
| City and Suburban                            | 4  |
| Columbia                                     | 3  |
| Georgetown and Tennallytown                  | 1  |
| Metropolitan                                 | 6  |
| Washington and Great Falls                   | 1  |
| Baltimore and Ohio                           | 4  |
| Chesapeake and Ohio                          | 1  |
| Baltimore and Potomac                        | 7  |

UNITED STATES GOVERNMENT.

|  |   |
|--|---|
| Bureau of Engraving and Printing                 | 1 |
| Coast Survey                                     | 1 |
| Department of the Interior                       | 3 |
| Insane Asylum                                    | 1 |
| Officer in charge new Government Printing Office | 2 |
| Officer in charge Public Buildings and Grounds   | 2 |
| Officer in charge Washington Aqueduct            | 1 |

Grand total 11,496

There has been an increase of 974 in the number of permits issued as compared with the fiscal year ended June 30, 1901; also in the amount of money paid to the collector of taxes, District of Columbia office, for fees, as will be shown by his report.

|   |        |
|---|--------|
| Permits issued during the fiscal year 1900-1901 | 10,522 |
| Permits issued during the fiscal year 1901-2    | 11,496 |

The following table shows the number of permits issued during the last five years, and the amount of money paid for permit fees to the collector of taxes, District of Columbia, during that time:

| Fiscal year. | Permits issued. | Fees paid. |
|--------------|-----------------|------------|
| 1897-98      | 10,465          | \$7,845    |
| 1898-99      | 11,340          | 7,622      |
| 1899-1900    | 10,589          | 6,737      |
| 1900-1901    | 10,522          | 6,583      |
| 1901-2       | 11,496          | 7,374      |

One thousand three hundred and twenty-seven communications have been referred to this office, briefs made on cards, the permits necessary written, the

papers indorsed with action taken and returned to the record office of the engineer department, or through that office to the division having charge of the inspection of the work for which the permits were issued.

Eighty-one names were recorded for laborers' places on District work during the year.

Very respectfully,

H. M. WOODWARD,  
Permit Clerk, District of Columbia.

Maj. JOHN BIDDLE,  
Corps of Engineers, U. S. Army,  
Engineer Commissioner, District of Columbia.

## REPORT OF THE CHIEF CLERK.

WASHINGTON, July 8, 1902.

MAJOR: I have the honor to submit the following report for the fiscal year ended June 30, 1902:

|   |        |
|---|--------|
| Communications received, briefed, and recorded.....       | 11,609 |
| Indorsements, references, and reports thereon.....        | 58,045 |
| Letters and orders prepared.....                          | 3,842  |
| Copies of contracts drawn.....                            | 480    |
| Vouchers and bills prepared, recorded, and forwarded..... | 6,266  |

Schedules of bids received during the fiscal year for work and materials furnished, and statements of contracts for street improvements, sewers, buildings, construction material, supplies, and miscellaneous work, are herewith.

The following is a list of employees who are paid from various appropriations, and are employed in the record office: One clerk, at \$4.50 per diem, surface appropriations; three clerks, at \$4 per diem, pro rata, sewer, water, and surface appropriations; one clerk, at \$3.25 per diem, pro rata, sewer, water, and surface appropriations.

Very respectfully,

A. Y. LAKENAN,  
Chief Clerk, Engineer Department.

Maj. JOHN BIDDLE,  
Corps of Engineers, U. S. Army,  
Engineer Commissioner, District of Columbia.

### Statement of contracts for the construction of sewers for the fiscal year 1902.

| No.  | Date.         | Name of contractor and address.     | Location.  | Character of work.  |
|------|---------------|-------------------------------------|--|---|
| 2965 | July 12, 1901 | John Jacoby, Wilmington, Del.       | From Third and Cincinnati streets through lands of W. W. Davidge and Trinity College to Michigan avenue. | Construct main circular sewer.  |
| 3009 | Aug. 8, 1901  | { Lyons Bros., Washington, D. C.    | { Princeton street, between Sherman avenue and Brightwood avenue.  | Construct 12-inch pipe sewer.   |
| 3037 | Oct. 23, 1901 | E. G. Gummel, Washington, D. C.     | Harvard street, between Sherman and Brightwood avenues.  | Construct 18-inch pipe sewer.   |
| 3043 | Nov. 9, 1901  | { James A. Coyle, Washington, D. C. | { Between New Jersey avenue and N SE., and New Jersey avenue and First street SE.                        | Construct and complete 3-foot 6-inch circular sewer.                        |
| 3044 | Nov. 13, 1901 | { W. F. Brenizer, Washington, D. C. | { Across square 380.....   | Construct pipe sewer. Do.   |
| 3048 | Nov. 22, 1901 | Lyons Bros.....                     | { O street SW., between Delaware avenue and James Creek Canal.   | Construct 3-foot 6-inch, 3-foot 9-inch sewer.                               |
| 3061 | Apr. 16, 1902 | W. F. Brenizer.....                 | { B street SW., between Sixth and Tenth.   | Construct 4-foot, 2.75 by 4.125, 2 by 3 foot sewer.                         |
|      |               |                                     | Connecticut avenue NW., Rock Creek to Cathedral avenue.  | Construct, complete, and keep in repair circular sewer.                     |
|      |               |                                     | West abutment of Massachusetts avenue bridge over Rock Creek.  | Construct cofferdam, facade walls, outlet section, tide-gate chambers, etc. |
|      |               |                                     | Sewerage pumping station, New Jersey avenue SE.  |   |







*Schedule of proposals for construction of sewer in Eighth street NE., between Hartford and Joliet streets, and in Joliet street between Seventh and Eighth streets, opened June 14, 1902.*

| Bidder                  | Ordinary excavation. | Red-brick masonry in Portland cement. | Vitrified-brick masonry in Portland cement. | Concrete masonry, Portland cement. | Vitrified inverted blocks. | 24-inch diameter pipe. | Total cost. |
|-------------------------|----------------------|---------------------------------------|---|------------------------------------|----------------------------|------------------------|-------------|
| Arthur Cowsill .....    | \$0.95               | \$13.97                               | \$19.95                                     | \$8.00                             | \$0.80                     | \$1.20                 | \$5,301.85  |
| W. F. Brenizer Co. .... | .68                  | 13.33                                 | 16.67                                       | 6.85                               | .75                        | .99                    | 4,244.99    |
| Jas. A. Coyle .....     | .65                  | 14.00                                 | 19.00                                       | 7.35                               | .70                        | 1.10                   | 4,444.50    |
| Lyons Bros .....        | .64                  | 13.75                                 | 18.50                                       | 7.35                               | .80                        | 1.10                   | 4,481.35    |

*Schedule of proposals received June 14, 1902, for repair of North Capitol street sewer between I and K streets.*

| Bidder.                 | Ordinary excavation. | Red-brick masonry in Portland cement. | Vitrified-brick masonry, Portland cement. | Concrete masonry, Portland cement. | Total.     |
|-------------------------|----------------------|---------------------------------------|---|------------------------------------|------------|
| Arthur Cowsill .....    | \$1.95               | \$19.75                               | \$39.00                                   | \$12.20                            | \$7,136.25 |
| W. F. Brenizer Co. .... | 1.75                 | 18.00                                 | 28.00                                     | 11.00                              | 5,945.00   |
| Jas. A. Coyle .....     | 2.50                 | 25.00                                 | 45.00                                     | 18.00                              | 9,235.00   |
| Lyons Bros .....        | 2.25                 | 23.00                                 | 40.00                                     | 17.00                              | 8,470.00   |

*Schedule of proposals for constructing dead house at Washington Asylum, opened June 16, 1902.*

| Bidder.                | Amount. | Bidder.                  | Amount. |
|------------------------|---------|--------------------------|---------|
| Wm. Rothwell .....     | \$1,005 | D. F. Mockabee .....     | \$1,239 |
| Pavarini & Greer ..... | 1,120   | Gleeson & Humphrey ..... | 1,240   |
| Arthur Cowsill .....   | 1,158   |                          |         |

*Schedule of bids received for constructing coal and ash pockets in Trumbull street pumping station, opened June 7, 1902.*

| Bidder.              | Amount.              | Bidder.                         | Amount.  |
|----------------------|----------------------|---------------------------------|----------|
| Henri Kampmann ..... | <sup>a</sup> \$7,850 | Roebling Construction Co .....  | \$18,707 |
| W. B. Upton Co ..... | 12,500               | The Southern Expanded Metal Co. | 13,707   |

<sup>a</sup> Hennebeque system.

*Schedule of proposals for furnishing cast-iron water pipe, opened October 19, 1901.*

| Bidder.   | Cost per ton. | Bidder.                   | Cost per ton. |
|---|---------------|---------------------------|---------------|
| Warren Foundry and Machine Co. ....               | \$24.90       | M. J. Drummond & Co ..... | \$26.90       |
| United States Cast Iron Pipe and Foundry Co. .... | 28.40         | R. D. Wood & Co .....     | 25.90         |

*Schedule of proposals for improving Bunker Hill road, opened March 1, 1902.*

| Bidder.              | Grading, price. | Unloading macadam, price. | Paving gutters, price. | Setting curb, price. | Relaying sidewalk, price. |
|----------------------|-----------------|---------------------------|------------------------|----------------------|---------------------------|
| M. F. Talty .....    | \$0.28          | \$0.34                    | \$ .40                 | \$0.17               | \$0.30                    |
| W. F. Brenizer ..... | .30             | .42                       | .70                    | .23                  | .50                       |
| Lyons Bros .....     | .29½            | .30                       | .62                    | .25                  | .35                       |

# 188 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

*Schedule of proposals for 40,000 feet of cast-iron pipe opened February 1, 1902.*

| Bidder.  | Price per ton. | Cost.       |
|--|----------------|-------------|
| M. J. Drummond & Co., New York, N. Y. ....                           | \$26.90        | \$14,256.00 |
| Camden Iron Works, Camden, N. J. ....                                | 28.96          | 15,638.40   |
| Warren Foundry and Machine Co., New York, N. Y. ....                 | 29.20          | 15,768.00   |
| United States Cast Iron Pipe and Foundry Co., Philadelphia, Pa. .... | 29.40          | 15,876.00   |

*Schedule of proposals for completing the grading of Joliet street, opened March 8, 1902.*

| Bidder.                | Price. | Amount. | Bidder.                | Price. | Amount.  |
|------------------------|--------|---------|------------------------|--------|----------|
| W. L. Swormstedt ..... | \$0.29 | \$7,250 | Pavarini & Greer ..... | \$0.40 | \$10,000 |
| Geo. B. Mullen .....   | .33    | 8,250   | Owen Patterson .....   | .45    | 11,250   |

*Schedule of proposals for steam generating equipment at Trumbull street pumping station, opened December 14, 1901.*

|  |  |          |
|--|--|----------|
| Crook, Homer & Co., Baltimore, Md.:                                |  |          |
| Cahall boilers, Roney stokers, Green economizers .....             |  | \$48,000 |
| Cahall boilers, Murphy stokers, American economizers .....         |  | 48,000   |
| B. & W. boilers, Roney stokers, Green economizers .....            |  | 50,000   |
| Heine boilers, <sup>a</sup> Roney stokers, Green economizers ..... |  | 46,500   |
| Westinghouse, Church, Kerr & Co., New York, N. Y.:                 |  |          |
| Cahall boilers, Roney stokers, Westinghouse economizers .....      |  | 49,785   |
| B. & W. boilers, Roney stokers, Westinghouse economizers .....     |  | 50,964   |
| Harris & Algor, Camden, N. J.:                                     |  |          |
| National boilers, Wilkinson stokers, American economizers .....    |  | 52,812   |
| National boilers, Wilkinson stokers, Green economizers .....       |  | 53,412   |
| National boilers, Roney stokers, American economizers .....        |  | 53,602   |
| National boilers, Murphy stokers, American economizers .....       |  | 54,612   |

<sup>a</sup> Heine boilers not acceptable under specifications.

*Schedule of proposals opened November 2, 1901, for furnishing design buildings and erecting a complete water end for the pumping engine.*

| Bidder.                 | Amount.  | Bidder.                      | Amount.  |
|-------------------------|----------|------------------------------|----------|
| Allis Chalmers Co. .... | \$18,500 | Snow Steam Pump Works .....  | \$28,627 |
| Camden Iron Works ..... | 28,360   | Barr Pumping Engine Co. .... | 48,000   |

*Schedule of bids for furnishing 9,000 barrels Portland cement, opened December 19, 1901.*

| Bidder.                              | Cement house. | Tracks Baltimore and Ohio Railroad. | Tracks Philadelphia, Wilmington and Baltimore Railroad. |
|--------------------------------------|---------------|-------------------------------------|---|
| Northampton Portland Cement Co. .... | \$1.47        | \$1.43                              | \$1.43  |
| National Mortar Co. ....             | 1.455         | 1.485                               | 1.415   |
| Atlas Portland Cement Co. ....       | 1.51          | 1.47                                | 1.47  |
| Lehigh Portland Cement Co. ....      | 1.52          | 1.48                                | 1.48  |
| Alpha Portland Cement Co. ....       | 1.55          | 1.50                                | 1.50  |
| Walter T. Bradley Co. ....           | 1.62          | 1.55                                | 1.55  |
| Cranford Paving Co. ....             | 1.65          | 1.60                                | 1.60  |
| Reading Cement Co. ....              |               | 1.60                                |   |
| Wm. Wirt Clarke & Son .....          | 1.84          | 1.80                                | 1.80  |





# 190 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

## Schedule of proposals for furnishing and delivering cast-iron water pipe—Cont'd.

### SEWER B.

[Connecticut avenue NW., from Rock Creek to Cathedral avenue.]

| Bidder.             | Ordinary excavation. | Brick masonry, natural cement mortar. | Vitrified brick masonry, Portland-cement mortar. | Concrete masonry, natural cement mortar. | Concrete masonry, Portland cement mortar. | Vitrified invert block. | Total cost. |
|---------------------|----------------------|---------------------------------------|--|--|---|-------------------------|-------------|
| W. F. Brenizer..... | \$0.58               | \$11.00                               | \$15.20  | \$5.08                                   | \$6.90                                    | \$0.70                  | \$12,722.78 |
| E. G. Gummel.....   | .90                  | 12.50                                 | 19.50  | 5.50                                     | 7.00                                      | .80                     | 15,842.40   |
| Lyons Bros.....     | .75                  | 11.50                                 | 18.50  | 6.00                                     | 7.00                                      | .70                     | 14,571.55   |

### SEWER C.

[Across square 330, along Florida avenue NW., between Tenth and Eleventh streets, and along Eleventh street, between Florida avenue and Clifton street.]

| Bidder              | Ordinary excavation. | Brick masonry, natural cement mortar. | 21-inch diameter pipe. | 18-inch diameter pipe. | Total cost. |
|---------------------|----------------------|---------------------------------------|------------------------|------------------------|-------------|
| W. F. Brenizer..... | \$0.61               | \$11.00                               | \$0.79                 | \$0.75                 | \$2,332.65  |
| E. G. Gummel.....   | .90                  | 12.50                                 | .80                    | .70                    | 2,475.80    |
| Lyons Bros.....     | .60                  | 11.00                                 | .74                    | .64                    | 2,165.30    |
| Jas. A. Coyle.....  | .50                  | 11.00                                 | .68                    | .60                    | 1,904.80    |

### SEWER D.

[O street SW., between Delaware avenue and James Creek Canal.]

| Bidder.                 | Ordinary excavation. | Brick masonry, natural cement mortar. | 24-inch diameter pipe. | Total cost. |
|-------------------------|----------------------|---------------------------------------|------------------------|-------------|
| Warren F. Brenizer..... | \$0.71               | \$12.00                               | \$0.99                 | \$745.10    |
| E. G. Gummel.....       | .75                  | 12.50                                 | .90                    | 725.50      |
| Lyons Bros.....         | 1.00                 | 15.00                                 | 1.50                   | 1,690.00    |
| Jas. A. Coyle.....      | .40                  | 11.00                                 | .80                    | 530.00      |

## Schedule of proposals for constructing a power house and nurses' home at Providence Hospital, opened October 26, 1902.

| Bidder.                      | Amount.     |
|------------------------------|-------------|
| Brennan Construction Co..... | \$49,850.00 |
| H. E. Burgess.....           | 75,000.00   |

## Proposals for grading certain streets and a school site, opened July 27, 1901.

| Bidder.              | Third street NE., L to Florida avenue. | Schoolsite, square 338. | South Dakota avenue and other streets, Wood-ridge. |
|----------------------|--|-------------------------|--|
|                      | Per cu. yd.                            | Per cu. yd.             | Per cu. yd.  |
| Hatton & Parker..... | \$0.34                                 | \$0.44                  | \$0.30   |
| Patrick Keelty.....  | .42                                    |                         |  |
| Carmody & Hough..... | .29                                    | .59                     | .27  |
| Andrew Gleeson.....  | .34                                    | .45                     | .29  |
| L. N. Simpson.....   |  | .48                     |  |
| M. F. Talty.....     | .29                                    | .36                     | .32  |
| Matthew Myers.....   | .35                                    | .35                     | .31  |
| Killeen & Ball.....  | .34                                    |                         | .31  |
| W. F. Brenizer.....  | .27                                    |                         |  |

*Proposal for sewage-pumping plant, opened July 13, 1901.*

| Name and address of bidder.                                   | Equip-<br>ment A,<br>regular. | Complete equip-<br>ment.  |                           | Equip-<br>ment B,<br>regular. | Partial<br>equip-<br>ment,<br>alter-<br>nate. |
|---|-------------------------------|---------------------------|---------------------------|-------------------------------|---|
|   |                               | Alter-<br>nate,<br>No. 1. | Alter-<br>nate,<br>No. 2. |                               |   |
| Allis-Chalmers Co., Milwaukee, Wis.....                       | \$253,000                     | \$231,000                 | \$241,000                 | \$158,750                     | \$148,000                                     |
| United Engineering and Contracting Co., New<br>York City..... | 329,450                       |                           |                           | 239,875                       |   |
| Camden Iron Works, Philadelphia, Pa.....                      | 323,000                       |                           |                           | 212,000                       |   |

*Proposals for grading and regulating suburban streets and avenues, opened  
July 27, 1901.*

| Bidder.              | Grading<br>(per cu-<br>bic<br>yard). | Setting<br>6 by 20<br>curb (per<br>linear<br>foot). | Paving<br>gutters<br>(per<br>square<br>yard). | Unload-<br>ing mac-<br>adam<br>(per cu-<br>bic<br>yard). | Over-<br>hauling<br>macad-<br>am (per<br>cubic<br>yard). | Total.     |
|----------------------|--------------------------------------|---|---|--|--|------------|
| Carmody & Hough..... | \$0.27                               | \$0.15  | \$0.23  | \$0.29   | \$0.06   | \$8,237.10 |
| M. F. Talty.....     | .30                                  | .20   | .25   | .37  | .22  | 10,150.10  |

*Schedules of bids received July 20, 1901, for repairs and changes in plumbing in  
Addison and Curtis school buildings.*

| Bidder                 | Amount.  |
|------------------------|----------|
| E. J. Hannan.....      | \$15,740 |
| S. S. Shedd & Bro..... | 15,888   |
| Jas. Nolan & Sons..... | 18,324   |

*Schedule of bids received for changing plumbing in teachers' toilet room of  
Peabody School, opened June 18, 1901.*

| Bidder.                 | Amount. |
|-------------------------|---------|
| Jas. Nolan & Sons.....  | \$208   |
| Kennedy & Schaefer..... | 307     |
| M. B. Casey.....        | 180     |

*Schedule of proposals for construction of a rubble wall along the east side of  
Garfield Hospital grounds, opened July 13, 1901.*

| Bidder.                 | Amount.    | Bidder.             | Amount. |
|-------------------------|------------|---------------------|---------|
| Lyons Bros.....         | \$1,137.00 | Jos. Robson.....    | \$1,200 |
| Cranford Paving Co..... | 1,169.25   | Killeen & Ball..... | 1,675   |

*Schedule of proposals received for reconstruction of plumbing in the Mott School  
building, opened June 29, 1901.*

| Bidder.                | Amount. |
|------------------------|---------|
| Jas. Nolan & Sons..... | \$5,799 |
| Wm. Rathwell.....      | 5,789   |
| S. S. Shedd & Bro..... | 5,287   |

# 192 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

## Schedule of proposals for excavating for foundation of new pumping station, opened June 30, 1901.

| Bidder.              | Price per cubic yard. |
|----------------------|-----------------------|
| Andrew Gleeson.....  | \$1.24                |
| Carmody & Hough..... | .28                   |
| J. H. Hammersly..... | .50                   |

## Schedule of proposals for constructing an eight-room school building on lots 2 to 10, square 615, P street NW., between North Capitol street and First street, opened August 3, 1901.

| Bidders.                | Red brick.  | Brick other than red, \$25 per M. | Brick other than red, \$30 per M. | Supplemental bid. |
|-------------------------|-------------|-----------------------------------|-----------------------------------|-------------------|
| Gleeson & Humphrey..... | \$42,200.00 | \$43,100.00                       |                                   | \$33,185.00       |
| J. M. Dunn.....         | 43,800.00   | 45,080.00                         | \$45,580.00                       |                   |
| Meads & Reynolds.....   | 44,000.00   | 44,950.00                         | 45,000.00                         |                   |
| Arthur Cowsill.....     | 51,605.00   | 52,605.00                         | 68,045.00                         |                   |

## Schedule of proposals for constructing a four-room school building on lots 18, 19, 20, and part of 21, block 26, Petworth, Philadelphia street, between Eighth street and Brightwood avenue NW., opened August 3, 1901.

| Bidder.                 | Red brick. | Brick, other than red, \$25 per M. | Brick, other than red, \$30 per M. | Supplemental bid. |
|-------------------------|------------|------------------------------------|------------------------------------|-------------------|
| Gleeson & Humphrey..... | \$25,500   | \$28,000                           |                                    | \$20,125          |
| Meads & Reynolds.....   | 26,800     | 27,500                             | \$28,000                           |                   |

## Proposals for the completion of plumbing in Birney School, Nichols avenue, Anacostia, opened August 2, 1901.

| Bidder.                | Amount. | Bidder.                | Amount. |
|------------------------|---------|------------------------|---------|
| Wm. Rathwell.....      | \$1,693 | S. S. Shedd & Bro..... | \$1.00  |
| Jas. Nolan & Sons..... | 1,461   | M. B. Casey.....       | 1.00    |

## Schedule of proposals for crushing stone in Rock Creek Park, opened August 3, 1901.

| Bidder.           | Price per cubic yard. | Bidder.                 | Price per cubic yard. |
|-------------------|-----------------------|-------------------------|-----------------------|
| Lyons Bros.....   | \$0.98                | Killeen & Ball.....     | \$1.5                 |
| G. B. Mullin..... | 1.34                  | Cranford Paving Co..... | 1.6                   |

## Schedule of proposals for laying cement sidewalks in the District of Columbia, opened August 10, 1901.

| Bidder.                       | Class A. | Class B. | Total amount. |
|-------------------------------|----------|----------|---------------|
| Cranford Paving Co.....       | \$0.89   | \$1.07   | \$45,781.00   |
| Brennan Construction Co.....  | .92      | 1.11     | 47,831.00     |
| E. G. Gunmel.....             | .94      | 1.08     | 47,921.00     |
| F. M. Kemp & Sons.....        | .98      | 1.08     | 49,701.00     |
| Colburn Paving Co.....        | .97      | 1.21     | 50,121.00     |
| R. A. Malone & Co.....        | 1.15     | 1.20     | 57,661.00     |
| Franklin Construction Co..... | 1.18     | 1.28     | 59,701.00     |

*Schedule of proposals for granolithic work about Webb and Dent schools, opened August 16, 1901.*

| Bidder.                       | Webb School. | Dent School. |
|-------------------------------|--------------|--------------|
| Cranford Paving Co .....      | \$985.55     | \$955.65     |
| Brennan Construction Co ..... | 893.28       | 887.52       |

*Schedule of proposals for constructing a school building at Lincoln avenue and Prospect street NE.*

| Bidder.                  | Red brick, machine made. | Red brick, hand made. | Light brick. | Supplemental bid.                    |
|--------------------------|--------------------------|-----------------------|--------------|--------------------------------------|
| J. M. Dunn .....         | \$45,600                 | \$45,900              | \$46,950     |                                      |
| Pavarini & Greer .....   | 48,600                   | 48,860                | 49,500       | \$500 to be deducted, 1, 2, and 3.   |
| Arthur Cowsill .....     | 48,400                   | 48,565                | 49,472       |                                      |
| Gleeson & Humphrey ..... | 50,500                   | 50,700                | 52,000       | \$1,900 to be deducted, 1, 2, and 3. |
| Meads & Reynolds .....   | 50,538                   | 51,363                | 52,863       | \$50,800.                            |
| D. F. Mockabee .....     | 53,391                   | 53,891                | 55,041       | \$52,780.                            |

*Schedule of proposals for toilet building and plumbing, Old Men's Home, Washington Asylum, opened August 24, 1901.*

| Bidder.                 | Amount. |
|-------------------------|---------|
| E. J. Hannan .....      | \$1,475 |
| Wm. Rothwell .....      | 1,499   |
| Jas. Nolan & Sons ..... | 1,738   |

*Schedule of proposals for steel arched ribs for Melan arch bridge across Rock Creek, on line of Rock Creek drive, opened August 31, 1901.*

| Name and address of bidder.                             | Amount. | Name and address of bidder.         | Amount. |
|---|---------|-------------------------------------|---------|
| Penn. Bridge Co., Beaver Falls, Pa.                     | \$939   | American Bridge Co., Baltimore, Md. | \$1,068 |
| New Jersey Foundry and Machine Co., New York City ..... | 991     | Jas. C McGuire, New York City ..... | 1,185   |

*Schedule of proposals for Melan arch bridge across Rock Creek, on line of Rock Creek drive, opened August 31, 1901.*

| Name and address of bidder.                 | Amount.  | Name and address of bidder.          | Amount.  |
|---|----------|--------------------------------------|----------|
| Talty & Allen, Washington, D. C.            | \$14,890 | W. B. Upton & Co., Washington, D. C. | \$23,900 |
| J. C. McGuire, New York City .....          | 18,000   |                                      |          |
| Cranford Paving Co., Washington, D. C. .... | 19,590   |                                      |          |

*Schedules of proposals for constructing stable for fire department on rear of lot 10, block 872, North Carolina avenue, between Sixth and Seventh streets SE., opened September 7, 1901.*

| Bidder.                 | Amount. |
|-------------------------|---------|
| Pavarini & Greer .....  | \$4,700 |
| Burgess & Parsons ..... | 4,774   |

# 194 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

*Proposals for improving Connecticut avenue west of Rock Creek, opened September 7, 1901.*

| Bidder.                       | Grading<br>below<br>present<br>surface. | Grading<br>above<br>present<br>surface. | Macadam<br>removed<br>and re-<br>placed. |
|-------------------------------|---|---|--|
|                               | <i>Per cu. yd.</i>                      | <i>Per cu. yd.</i>                      | <i>Per cu. yd.</i>                       |
| G. B. Mullin.....             | \$0.77                                  | \$0.33                                  | \$0.50                                   |
| Lyons Bros.....               | .89                                     | .43                                     | .63                                      |
| Coogan Bros. & Forschner..... | 1.00                                    | .63                                     | .60                                      |

*Schedule of proposals for furnishing and erecting boiler at male workhouse, Washington Asylum, opened September 10, 1901.*

| Bidder.                            | Amount. | Bidder.  | Amount. |
|------------------------------------|---------|--|---------|
| W. H. McCuen & Co.....             | \$914   | Ellicott Machine Co.....                         | \$1,240 |
| National Electrical Supply Co..... | 944     | W. W. Biggs Heating and Venti-<br>lating Co..... | 1,335   |
| Forsberg & Murray.....             | 976     |  |         |

*Schedule of proposals for furnishing and erecting fences around Dent and Webb schools.*

| Bidder.                      | Dent<br>School. | Webb<br>School. |
|------------------------------|-----------------|-----------------|
| J. W. Swainson.....          | \$526.00        | \$220.00        |
| Brennan Construction Co..... | 762.00          | 300.00          |
| J. M. Dunn.....              | 678.75          | 275.00          |

*Schedule of proposals for new boiler house, etc., for Jefferson School building, Sixth and D streets SW.*

| Bidder.               | Amount. |
|-----------------------|---------|
| W. E. Mooney.....     | \$4,813 |
| J. F. Leary.....      | 4,997   |
| Pavarini & Greer..... | 6,200   |

*Schedule of proposals for furnishing and erecting two steam boilers, etc., at Custis School building, O street NW., between Thirty-second and Thirty-third streets, opened September 25, 1901.*

| Bidder.                            | Amount.    |
|------------------------------------|------------|
| National Electrical Supply Co..... | \$2,858.37 |
| Ellicott Machine Co.....           | 4,800.00   |

*Schedule of proposals for constructing stable in rear of truck house on Whitney avenue, between Thirteenth and Fourteenth streets NW., opened September 21, 1901.*

| Bidder.               | Amount. |
|-----------------------|---------|
| J. F. Leary.....      | \$1,897 |
| Pavarini & Greer..... | 1,800   |



# 196 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

*Schedule of bids received September 21, 1901, for pumping-station building, Trumbull street—Continued.*

| Name and address of bidder.             | Ashlar masonry facing.        |                                   |  |                                   |                                   |                                       |
|---|-------------------------------|-----------------------------------|--|-----------------------------------|-----------------------------------|---------------------------------------|
|   | Granite base, Vermont marble. | Granite base, Vermont "B" marble. | Granite base, Vermont "C" or "E" marble. | Granite base, Vermont "D" marble. | Granite base, Vermont "A" marble. | Granite base, Tennessee white marble. |
| E. M. Noel, Baltimore, Md.              |                               |                                   |  |                                   |                                   |                                       |
| Geo. A. Fuller Co., Baltimore, Md.      |                               |                                   |  |                                   | \$245,222.00                      | \$245,222.00                          |
| Arthur Cowdill, Washington, D. C.       |                               |                                   |  |                                   |                                   |                                       |
| Richardson & Burgess, Washington, D. C. |                               |                                   |  |                                   |                                   |                                       |
| R. A. Malone & Son, Washington, D. C.   | \$427,000.00                  |                                   |  |                                   |                                   |                                       |
| W. E. Speir, Washington, D. C.          | 428,050.00                    |                                   |  |                                   |                                   |                                       |
| Penn Bridge Co., Beaverfalls, Pa.       |                               | \$447,000.00                      | \$425,000.00                             | \$434,700.00                      | 422,800.00                        |                                       |
| Cramp & Co., Philadelphia, Pa.          |                               | 428,000.00                        | = 415,000.00                             |                                   |                                   | 384,000.00                            |
| P. J. Carlin & Co., Brooklyn, N. Y.     |                               |                                   |  | 364,000.00                        |                                   |                                       |

"Vermont "C."

*Schedule of proposals for furnishing and erecting complete steam boilers at the manual training school No. 2, P street NW., between First and Third.*

| Bidder.                       | Amount. |
|-------------------------------|---------|
| Heine Safety Boiler Co.       | \$5,326 |
| Forsberg & Murray (complete)  | 5,575   |
| Hawley Down Draft Furnace Co. | 1,300   |

*Schedule of proposals for water gates for Trumbull street pumping station, received October 5, 1901.*





# 194 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

*Proposals for improving Connecticut avenue west of Rock Creek, opened September 7, 1901.*

| Bidder.                       | Grading<br>below<br>present<br>surface. | Grading<br>above<br>present<br>surface. | Macadam<br>removed<br>and re-<br>placed. |
|-------------------------------|---|---|--|
|                               | <i>Per cu. yd.</i>                      | <i>Per cu. yd.</i>                      | <i>Per cu. yd.</i>                       |
| G. B. Mullin.....             | \$0.77                                  | \$0.33                                  | \$0.39                                   |
| Lyons Bros.....               | .89                                     | .43                                     | .63                                      |
| Coogan Bros. & Forschner..... | 1.00                                    | .63                                     | .60                                      |

*Schedule of proposals for furnishing and erecting boiler at male workhouse, Washington Asylum, opened September 10, 1901.*

| Bidder.                            | Amount. | Bidder.  | Amount. |
|------------------------------------|---------|--|---------|
| W. H. McCuen & Co.....             | \$914   | Ellicott Machine Co.....                         | \$1,200 |
| National Electrical Supply Co..... | 944     | W. W. Biggs Heating and Venti-<br>lating Co..... | 1,200   |
| Forsberg & Murray.....             | 976     |  |         |

*Schedule of proposals for furnishing and erecting fences around Dent and Webb schools.*

| Bidder.                      | Dent<br>School. | Webb<br>School. |
|------------------------------|-----------------|-----------------|
| J. W. Swainson.....          | \$528.00        | \$220.00        |
| Brennan Construction Co..... | 762.00          | 312.00          |
| J. M. Dunn.....              | 678.75          | 225.00          |

*Schedule of proposals for new boiler house, etc., for Jefferson School building, Sixth and D streets SW.*

| Bidder.               | Amount. |
|-----------------------|---------|
| W. E. Mooney.....     | \$4,800 |
| J. F. Leary.....      | 4,800   |
| Pavarini & Greer..... | 4,800   |

*Schedule of proposals for furnishing and erecting two steam boilers, etc., at Custis School building, O street NW., between Thirty-second and Thirty-third streets, opened September 25, 1901.*

| Bidder.                            | Amount.    |
|------------------------------------|------------|
| National Electrical Supply Co..... | \$2,500.00 |
| Ellicott Machine Co.....           | 4,000.00   |

*Schedule of proposals for constructing stable in rear of truck house on Whitney avenue, between Thirteenth and Fourteenth streets NW., opened September 21, 1901.*

| Bidder.               | Amount. |
|-----------------------|---------|
| J. F. Leary.....      | \$1,800 |
| Pavarini & Greer..... | 1,800   |





*Schedule of proposals for furnishing Portland cement, opened June 3, 1902.*

| Bidder.                 | Canal street. | Baltimore and Ohio R. R. | Philadel-<br>phia, Wil-<br>mington<br>and Balti-<br>more R. R. |
|-------------------------|---------------|--------------------------|--|
| Barber & Ross.....      | \$2.80        | \$2.25                   | \$2.25   |
| Wm. Wirt Clarke.....    | 1.94          | 1.89                     | 1.89   |
| National Mortar Co..... | 1.98          | 1.96                     | 1.90   |

*Schedule of proposals received June 20, 1902, for a portion of low-area trunk sewer.*

| Bidder.             | Ordinary<br>excava-<br>tion. | Red-brick<br>masonry,<br>Portland<br>cement. | Vitrified-<br>brick<br>masonry,<br>Portland<br>cement. | Concrete<br>masonry,<br>"A"<br>Portland<br>cement. | Concrete<br>masonry,<br>"B"<br>Portland<br>cement. | 6-inch<br>diameter<br>pipe. | Total cost. |
|---------------------|------------------------------|--|--|--|--|-----------------------------|-------------|
| Arthur Cowsill..... | \$1.17                       | \$12.00                                      | \$17.50  | \$7.50   | \$7.10   | \$0.15                      | \$18,104.00 |
| Andrew Gleeson..... | 2.80                         | 19.00  | 27.00  | 15.00  | 12.00  | .18                         | 27,532.00   |
| M. F. Talty.....    | 2.50                         | 20.00  | 25.00  | 18.50  | 10.50  | .85                         | 25,520.00   |

# 200 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

*Schedule of proposals for furnishing granite curbing, received June 3, 1902.*

| Bidder.                              | Standard, 6 by 20 inches. |           | Standard, 8 by 8 inches. |           |
|--------------------------------------|---------------------------|-----------|--------------------------|-----------|
|                                      | Straight.                 | Circular. | Straight.                | Circular. |
| Francis Jones & Co .....             | \$0.77                    | \$1.15    | \$0.67½                  | \$1.15    |
| Georgia Rough and Cut Stone Co. .... | .79½                      | 1.25      | .71½                     | 1.00      |
| Venable Bros .....                   | .75                       | 1.00      | .66                      | 1.00      |
| Brantley & Doby .....                | .78                       | 1.10      | .74                      | 1.00      |

*Schedule of proposals received for sand and gravel, opened June 3, 1902.*

| Bidder.                                       | Paving and concrete. | Building | Screened gravel. |
|---|----------------------|----------|------------------|
| L. E. Smoot .....                             | \$0.50               | \$0.65   | \$5.5            |
| Columbia National Sand Dredging Company ..... | .55                  | .65      | .90              |

*Schedule of bids received June 3, 1902, for terra-cotta pipes, Y branches, vitrified invert blocks, and bricks.*

<sup>a</sup> Clearfield.

*Schedule of proposals received June 3, 1902, for repressed vitrified paving blocks.*

| Bidder                         | Blocks. | Half blocks. | Remarks.                                  |
|--------------------------------|---------|--------------|---|
| Mack Manufacturing Co .....    | \$20.45 | \$12.95      | 42 to square yard, not less than 50,000.  |
| Jos. P. Mack .....             | 19.52   | 12.90        | 43 to square yard, not less than 50,000.  |
| Guise Brick and Stone Co. .... | 20.50   | 15.00        | 44 to square yard, not less than 200,000. |
| American Sewer Pipe Co .....   | 21.70   | 14.00        | 48 to square yard, not less than 100,000. |

*Schedule of proposals for furnishing Portland cement, opened June 3, 1902.*

| Bidder.                 | Canal street. | Baltimore and Ohio R. R. | Philadel-<br>phia, Wil-<br>mington<br>and Balti-<br>more R.R. |
|-------------------------|---------------|--------------------------|---|
| Barber & Ross.....      | \$2.80        | \$2.25                   | \$2.25  |
| Wm. Wirt Clarke.....    | 1.94          | 1.89                     | 1.89  |
| National Mortar Co..... | 1.98          | 1.96                     | 1.90  |

*Schedule of proposals received June 20, 1902, for a portion of low-area trunk sewer.*

| Bidder.             | Ordinary<br>excava-<br>tion. | Red-brick<br>masonry,<br>Portland<br>cement. | Vitrified-<br>brick<br>masonry,<br>Portland<br>cement. | Concrete<br>masonry,<br>"A"<br>Portland<br>cement. | Concrete<br>masonry,<br>"B"<br>Portland<br>cement. | 6-inch<br>diameter<br>pipe. | Total cost. |
|---------------------|------------------------------|--|--|--|--|-----------------------------|-------------|
| Arthur Cowsill..... | \$1.17                       | \$12.00                                      | \$17.50  | \$7.50   | \$7.10   | \$0.15                      | \$18,194.00 |
| Andrew Gleeson..... | 2.80                         | 19.00  | 27.00  | 15.00  | 12.00  | .18                         | 27,532.00   |
| M. F. Talty.....    | 2.50                         | 20.00  | 25.00  | 18.50  | 10.50  | .35                         | 25,520.00   |





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# REPORT

OF THE

OPERATIONS OF THE ENGINEER DEPARTMENT OF THE  
DISTRICT OF COLUMBIA

FOR

THE YEAR ENDED JUNE 30, 1903,

UNDER THE DIRECTION OF

MAJOR JOHN BIDDLE, CORPS OF ENGINEERS, U. S. A.,  
ENGINEER COMMISSIONER, DISTRICT OF COLUMBIA.

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**EXTRACT FROM THE REPORT OF THE COMMISSIONERS OF THE  
DISTRICT OF COLUMBIA FOR THE YEAR ENDED JUNE 30, 1903.**

**OFFICE OF THE COMMISSIONERS  
OF THE DISTRICT OF COLUMBIA,  
*Washington, November 6, 1903.***

**The PRESIDENT:**

The Commissioners of the District of Columbia herewith submit, for the information of Congress, as required by law, their annual report of the official doings of the government of said District for the fiscal year which ended June 30, 1903.

\* \* \* \* \*

**RAILROAD TERMINAL.**

The work of abolishing grade crossings in the city of Washington and providing a new bridge across the Potomac is well under way. The piers for the new bridge which is to take the place of the Long Bridge have been constructed and some of the ironwork for the superstructure is in place. Work is now in progress on the tunnel on the line of Virginia avenue between South Capitol street and Seventh street east. All streets are to be carried over this part of the line. The land necessary for the new union station, on the line of Delaware avenue between Massachusetts avenue and Florida avenue, has practically all been acquired. Most of the buildings that occupied this land have been removed, and the work of removing the remainder of them is progressing rapidly. The Commissioners have been informed that the work will be pushed with all dispatch, and it is expected that the structures will be sufficiently advanced by the spring of 1905 to permit trains to run in on the new tracks, thus obviating the usual necessity of putting down temporary tracks to accommodate inauguration traffic.

**MUNICIPAL BUILDING.**

The Secretary of the Treasury and the Commissioners of the District of Columbia, acting jointly, are authorized by the municipal building act approved June 6, 1902, to contract for the erection and completion of a fireproof building for the accommodation of the municipal offices of the District of Columbia, the cost of such building, including site, not to exceed \$2,000,000. The site for the building (the old power-house square, Fourteenth and D streets) was purchased at a cost of \$550,000. The Engineer Commissioner is executive officer of the com-







system of square numbers would be very valuable for many municipal purposes, particularly for the branch of the service represented by the offices of the assessor and surveyor.

#### TREE SERVICE.

The trees upon streets in the District of Columbia now number 87,407. For several years the annual appropriation for the parking commission has been the same, namely, \$25,000, although the number of trees to be cared for has been increasing at the rate of about 2,500 a year. This appropriation also has to be used for improving reservations under the care of the Commissioners and moving weeds on parkings. There is probably no other single feature that adds so much to the beauty, health, and comfort of the city as its trees, and it is highly desirable that they be properly cared for and the tree service extended as fast as practicable to streets not already so provided. In the estimates for the coming year an additional amount is asked for to provide better care for the trees already planted and also to permit needed planting on streets not now supplied; otherwise the number of new trees that can be planted will be very limited, as the appropriation is hardly more than sufficient to maintain the trees already in existence.

Details of the work of the parking commission are given in the report of Mr. Trueman Lanham, superintendent of parking.

#### ROCK CREEK PARK.

The appropriation for the care and improvement of the park for the year was only \$2,500. This was one of the smallest yearly appropriations in the history of the park, and consequently very little could be accomplished; the money was used to make needed repairs at various points on the roads. The chain gang has been utilized as far as possible and has been of considerable service. During the year Ross road was graded by them for a distance of 3,000 feet and a viaduct constructed to carry the road over a deep ravine. This viaduct was constructed entirely by the chain gang. It is 170 feet in length and is 45 feet high in the center. It is a creditable example of what the gang is capable of doing and of the excellent way in which the foreman has handled his men. Unless means are provided for the opening and grading of the roads in the north half of the park, this beautiful section will be cut off to the driving and riding public. The temporary bridges which have been thrown across the stream are becoming dilapidated and dangerous, and the roads are getting in such a condition that they will have to be closed unless means are provided to improve them.

The creek banks need protection, all roads need repairs and constant watering during dry weather, so that the cost of keeping the park in its present condition is quite considerable. The popularity of the park is steadily growing, and it is hoped that all of this beautiful section of country can soon be provided with good roads and footpaths so as to open it up still further to the public.

#### RETENT ON CONTRACTS.

The law now requires that 10 per cent of the cost of all new works shall be retained as an additional security and a guaranty fund



more time to the inspection of elevators and fire escapes. An item has been included in the estimates for a mechanical engineer.

Since the close of the fiscal year competitive plans have been received for the new business high school to be located on square north of square No. 396, bounded by R street, Rhode Island avenue, Eighth and Ninth streets. As a result of this competition, the plans of Mr. B. Stanley Simmons were selected and he is now preparing the plans and specifications preparatory to receiving bids for the building.

#### REPAIR WORK.

The work of keeping in repair the numerous buildings owned by the District of Columbia is growing larger and more important each year. The older a building gets of course the more repairs it needs, and new buildings are annually added to the list of those that have to be cared for. There are now more than 200 buildings to be looked after and more than \$100,000 is spent a year in repairs and betterments. It is believed to be the part of wisdom to keep the buildings under close supervision, making needed repairs as soon as possible after the necessity arises, instead of waiting until time and wind and weather have increased the damage and the cost of repair. The repair shop has never been provided with the facilities that its importance deserves. The shop occupies rented quarters for which a rent of \$50 a month is paid; the building is an old and dilapidated one, without room or provision for carrying the necessary stock of lumber, hardware, paints, castings, etc., as should be done to insure prompt and efficient work. The regular force consists of 1 superintendent, 2 clerks, and 3 foremen. Carpenters, tinnerns, painters, etc., are taken on from time to time as their services are needed. The largest work of repair is that on school buildings, which has to be done during the summer holidays.

It is believed that the District should have a properly fitted-up repair shop of its own, as without such a plant the repairs can not be attended to as promptly and efficiently as they should be, and promptness and efficiency in work of this character means money saved in the long run. The Commissioners have included an item of \$30,000 in their estimates for such a shop. An additional argument in favor of the item at this particular time is the fact that new quarters of some kind will have to be provided within the course of a year or two, as the shop building, No. 13 D street NW., is within the area affected by changes in connection with the new railway terminal improvements.

#### SEWER CONSTRUCTION.

During the year about 16½ miles of sewers were constructed, of which 2.8 miles were main sewers.

Work upon the sewage-disposal project has progressed at a reasonable rate. The expenditures to date on account of completed work amount to \$1,233,092.44. The appropriations to date on account of work in progress aggregate \$1,985,000. The estimated cost of completing the system is \$1,729,000. This is asked for in the estimates for the coming year. If the necessary money is appropriated, the system should be completed by the end of 1905.





This balance has been decreased \$110,000 during the past year on account of laying new trunk mains, work on the new pumping station, etc. The current revenues are inadequate to provide for these betterments, and were it not for the surplus accumulated, this necessary work could not be done without creating a deficit in the water fund. The balance on hand, together with the surplus of each year, is not more than sufficient to cover improvements projected. It would therefore be inadvisable to fix the rates, even if possible, so that the collections of one year, including assessments, should exactly meet the ordinary expenses, without making any provision for emergencies or to enlarge and improve the system.

As to a change in the basis of calculating water rents, it would probably be possible to devise a more intricate and costly system that would make nicer distinctions between houses of different "dimensions, assessed values, exposures to fires," etc. Any change, no matter upon what basis, would be open to objections. It is comparatively easy to apply a rule uniformly to the different classes of cases; it is extremely difficult, however, to devise a set of general rules that will apply with uniform justice to every particular case. There is only one way known to the office of doing this, and that is by the owner of the house installing a water meter and paying for the amount of water actually used. The office will be very glad to have owners install meters if they desire to do so, but the Commissioners do not wish to force the use of meters upon owners of dwellings who do not want them, nor to change old-established customs until there appears to be a general and well-founded demand for it.

The water-rent regulations formerly provided for a charge of 50 cents per room per year in the case of rented rooms. This regulation during the past year was revoked as it was found to work unjustly.

#### DISTRICT STABLES.

Congress has enacted that "all horses, buggies, or carriages owned or maintained by the District of Columbia shall, so far as may be practicable, be provided for in stables owned or operated by said District." This is done at the stables of the engineer department at Second and Canal streets SW., and on U street near Sixteenth NW. These stables are crowded to care for the horses now quartered there and no more animals can be cared for until more room is provided. A superintendent and two hostlers are employed, who look after the stalls, feed, harness, etc., the drivers being required to care for their own horses and vehicles.

\* \* \* \* \*

Very respectfully,

HENRY B. F. MACFARLAND,  
HENRY L. WEST,  
JOHN BIDDLE,  
*Commissioners of the District of Columbia.*



# REPORT OF THE OPERATIONS OF THE ENGINEER DEPARTMENT.

## SURFACE DIVISION.

Capt. H. C. NEWCOMER,

*Corps of Engineers, United States Army, Assistant to the Engineer Commissioner, in charge.*

|   |   |
|---|---|
| HIGHWAYS (STREETS, ROADS, BRIDGES, ETC.)..... | C. B. HUNT,<br><i>Engineer of Highways.</i>             |
| Sidewalks and alleys.....                     | H. N. MOSS,<br><i>Superintendent of Streets.</i>        |
| Maintenance of county roads .....             | MORRIS HACKER,<br><i>Superintendent of Roads.</i>       |
| Construction and care of bridges.....         | W. J. DOUGLAS,<br><i>Engineer of Bridges.</i>           |
| SURVEYOR'S OFFICE.....                        | H. B. LOOKER,<br><i>Surveyor, District of Columbia.</i> |
| PARKING COMMISSION.....                       | TRUEMAN LANHAM,<br><i>Superintendent of Parking.</i>    |

## REPORT OF ASSISTANT IN CHARGE.

OFFICE OF THE ENGINEER COMMISSIONER, DISTRICT OF COLUMBIA,  
*Washington, October 22, 1903.*

MAJOR: I have the honor to transmit herewith annual reports giving in detail the operations during the fiscal year ending June 30, 1903, of the surface division, the surveyor's office, and the parking commission, namely:

Report of the engineer of highways, including reports of the superintendent of streets, superintendent of roads, and the engineer of bridges.

Report of the surveyor, District of Columbia.

Report of the superintendent of parking.

These reports describe quite fully the work done under the different offices, and reference is made to them for such details as may be desired. In submitting these reports it is desired to call special attention to the urgent need of larger appropriations for repairs to streets, avenues, and alleys, in order to replace many of the old asphalt pavements that can no longer be kept in fair condition at reasonable expense. In most cities the average life of an asphalt pavement is held to be from 10 to 12 years. In Buffalo, N. Y., where the experience with such pavements has probably been more favorable than in any place except Washington, the life of the asphalt pavements on business streets is considered to be from 10 to 12 years and on residence streets from 12 to 15 years. In Washington the pavements are expected to last from 15 to 20 years, with an average age of probably 18 years before they have to be relaid. The average age of the pavements resurfaced during the past fiscal year was slightly over 21 years. The age of some of the old pavements is not known exactly, as they were laid at a time when complete records were not kept. Taking those, however, whose age is known the following table gives the areas of pavement for each different

## 2 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

year of age for those pavements that are no longer under guarantee by contractors, that is, those pavements that have an age of 5 years or more:

### *Age of pavements July 1, 1903.*

| Age (years): | Square yards. | Age (years): | Square yards. |
|--------------|---------------|--------------|---------------|
| 5.....       | 97,642        | 20.....      | 108,385       |
| 6.....       | 99,967        | 21.....      | 95,762        |
| 7.....       | 81,497        | 22.....      | 106,439       |
| 8.....       | 109,128       | 23.....      | 126,657       |
| 9.....       | 105,693       | 24.....      | 66,949        |
| 10.....      | 101,296       | 25.....      | 35,417        |
| 11.....      | 130,745       | 26.....      | 21,899        |
| 12.....      | 209,632       | 27.....      | 15,041        |
| 13.....      | 202,134       | 28.....      | 30,682        |
| 14.....      | 165,746       | 29.....      | 1,642         |
| 15.....      | 59,668        | 30.....      | 23,254        |
| 16.....      | 97,607        | 31.....      | 7,330         |
| 17.....      | 70,841        |              |               |
| 18.....      | 45,154        |              |               |
| 19.....      | 60,967        |              |               |
|              |               |              | 2,277,144     |

The average age of the 2,277,144 square yards of asphalt pavement covered by this table is about 14.8 years. It will be observed, too, that there are over 700,000 square yards of pavement that are over 18 years old. For several years it has been necessary to maintain, by expensive repairs, considerable areas that should have been resurfaced, but which could not be so treated on account of the lack of funds.

The following table gives the appropriations for repairs to streets and the area of asphalt pavements for each year since 1890. It will be observed that for a number of years a practically constant sum has been provided, while the area of pavements to be maintained has increased very largely.

### *Repairs to asphalt pavements, 1890 to 1903.*

<sup>a</sup> Estimated.

It is believed that the above facts, especially if considered in connection with an inspection of many of the older pavements that can no longer be kept in satisfactory condition by repairs, would convince anyone that larger appropriations for repairs of streets are imperatively needed.

Very respectfully,

H. C. NEWCOMER,  
Capt., Corps of Engineers, U. S. Army,  
Assistant to Engineer Commissioner, District of Columbia.

Maj. JOHN BIDDLE,  
Corps of Engineers, U. S. Army,  
Engineer Commissioner, District of Columbia.

REPORT OF THE ENGINEER OF HIGHWAYS, DISTRICT OF COLUMBIA.

WASHINGTON, D. C., July 1, 1903.

SIR: I have the honor to submit the following report of the operations of the surface division of the engineer department of the District of Columbia for the fiscal year ended June 30, 1903:

The total amount of the funds appropriated by Congress and deposited by corporations and others for disbursement by the surface division during the fiscal year aggregated about \$950,000, of which about \$250,000 was for paving alleys and sidewalks throughout the District of Columbia, \$300,000 for paving new streets and repairing and repaving old ones within the city limits, about \$230,000 for construction and repair of suburban streets and county roads, about \$70,000 for the maintenance and construction of bridges throughout the District, while approximately \$100,000 was spent in repairing pavements disturbed by excavations on account of various corporations, plumbers, and other branches of the District government.

Summary statement of work under appropriations for "Work on sundry streets and avenues," "Construction of county roads," and "Paving roadways under permit system."

| Character of work.                                | Streets and avenues. | County roads and suburban streets. | Paving roadways. | Total.  |
|---|----------------------|------------------------------------|------------------|---------|
| Asphalt, 6-inch base.....square yards..           | 34,367               | 13,578                             | .....            | 47,945  |
| Vitrified block gutters.....do....                | 5,700                | 1,966                              | .....            | 7,666   |
| Asphalt block.....do....                          | 29,687               | 4,140                              | 215              | 34,042  |
| Macadam roadways.....do....                       | .....                | 50,000                             | .....            | 50,000  |
| Cobble gutters.....do....                         | .....                | 12,000                             | .....            | 12,000  |
| Ordinary grading.....cubic yards..                | 15,000               | 108,206                            | 528              | 123,734 |
| Macadam grading.....do....                        | 7,000                | 1,000                              | .....            | 8,000   |
| Old cobble and granite removed.....square yards.. | 40,000               | 5,000                              | .....            | 45,000  |
| Old curb removed.....linear feet..                | 10,000               | 2,000                              | .....            | 12,000  |
| Curb set.....do....                               | 20,000               | 12,000                             | .....            | 32,000  |
| Curb reset.....do....                             | 26,000               | 1,500                              | .....            | 27,500  |

In the report of the superintendent of streets all day-labor work under the appropriation for "Repairs to streets" is consolidated. It seems proper to seggregate certain items of work, which is accordingly itemized, as follows:

The roadways of B street NW., between Seventeenth street and Virginia avenue, and of Virginia avenue NW., between B and E streets, were macadamized; extensive repairs were made to the asphalt-block roadway of Maryland avenue NE., east of Sixth street; the roadway of Seventeenth street NW., between B and E streets, was macadamized in part—the work to be completed during the current fiscal year; the intersection of Twelfth street, K street, and Georgia avenue SE. was brought to the established grade, and the intersecting streets and alleys were regulated.

The principal items of work under the appropriation for "Repairs to roads" were: The west roadway of Brightwood avenue was macadamized from Trenton street to Wallach street, and the east roadway from the Rock Creek Church road northward was similarly treated. The Bunker Hill road was macadamized between the Sargeant and the Queens Chapel roads. Wisconsin avenue was macadamized from Galveston street to the Nourse place. Pomeroy street was macadamized from Fourth street to Moores lane. Ingraham place was macadamized from Brightwood avenue to Colorado avenue. The Rock Creek Ford road was regulated and improved between the Military road and the Broad Branch road. Portions of Blagden avenue near Sixteenth street were macadamized. Twenty-fourth street NE. was macadamized between Detroit and Cincinnati streets, and Cincinnati street was similarly treated between Twenty-second and Twenty-fourth streets. Kenesaw avenue was macadamized between Fourteenth and Mount Pleasant streets. Sherman avenue was macadamized between Irving and Harvard streets. Carroll avenue was macadamized between the Blair road and the District line, and portions of the Bennings road were macadamized.

The following is a list of tables appended with this report:

- Table A.—Street railways in the District of Columbia, July 1, 1903.
- B.—Statement of character and extent of street pavements, July 1, 1903.
- C.—Statement of mileage of street pavements, July 1, 1903.
- D.—(Table D omitted.)



which the appropriation is expended are never completed until late in the fall, and the contract for the past fiscal year for laying sidewalks will probably not be completed for eight or nine months after the expiration of the fiscal year. These conditions, under the present arrangement of the repayments, are practically unavoidable. The remedy is a simple one; involves no increase in expenditures; appears to possess advantages from whatever point of view it is regarded, and consists in crediting the collections for these special improvements in equal parts to the revenues of the District of Columbia and the United States and increasing the appropriation for assessment and permit work by the average total of these collections. With this provision the amount of the appropriation would be definitely known at the beginning of the year, and arrangements for its expenditure practically within the fiscal year could be made. I recommend that this be presented to Congress in the estimates for the ensuing fiscal year, and that the change be urged as of great practical advantage.

The requirement of the organic act, under which the present District government was organized, that 10 per cent of the cost of all work executed under contract shall be retained for five years is at times a hardship to the District. There are classes of work performed by contract on which no practical occasion for any retention exists, and others where a much shorter period of retention could with equal advantage be named; in either event the District is put to an unwarranted expense, which in the aggregate amounts to several thousand dollars each year. If the amount and period of guarantee could be made discretionary with the Commissioners, instead of being invariable, there would result a substantial economy and a conformity to the approved practice of other municipalities.

My acknowledgments are due to the employees of the surface division for the work accomplished by the office during the year.

Respectfully submitted.

C. B. HUNT,  
*Engineer of Highways, District of Columbia.*

Maj. JOHN BIDDLE,  
*Corps of Engineers, U. S. Army,*  
*Engineer Commissioner, District of Columbia.*  
(Through Capt. H. C. Newcomer.)

TABLE A.—*Street railroads in operation in the District of Columbia July 1, 1903.*

| Name of company.                                      | Tracks in use, owned by company. |               |                    |               |
|---|----------------------------------|---------------|--------------------|---------------|
|   | Underground electric.            |               | Overhead electric. |               |
|   | Double.                          | Single.       | Double.            | Single.       |
|   | <i>Miles.</i>                    | <i>Miles.</i> | <i>Miles.</i>      | <i>Miles.</i> |
| Washington Traction and Electric Co.:                 |                                  |               |                    |               |
| Metropolitan R. R.                                    | 10.18                            | 4             |                    |               |
| Columbia Rwy.   | 2.77                             |               | 4.12               | 0.89          |
| City and Suburban Rwy. of Washington                  | 4.06                             | 2.36          | 5.58               |               |
| Brightwood Rwy.                                       |                                  |               | 5.93               |               |
| Georgetown and Tennallytown Rwy.                      |                                  |               | 4.16               |               |
| Anacostia and Potomac River R. R.                     | 6.52                             |               | 1.46               | 1.64          |
| Washington and Great Falls Electric Rwy.              |                                  |               | 3.88               |               |
| Washington and Glen Echo R. R.                        |                                  |               | .10                |               |
| Capital Traction                                      | 13.44                            | 3.26          | 3.57               |               |
| Baltimore and Washington Transit                      |                                  |               |                    | .43           |
| Washington, Alexandria and Mount Vernon Electric Rwy. | .90                              | .33           |                    |               |
| Total   | 37                               | 9.93          | 28.80              | 2.96          |

TABLE B.—*Statement of character and extent of street pavements July 1, 1903.*

| Section.   | Asphalt and coal tar. | Asphalt block.  | Vitrified block. | Granite.        | Cobble.         | Macadam.        | Gravel.         | Total.          |
|------------|-----------------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|            | <i>Sq. yds.</i>       | <i>Sq. yds.</i> | <i>Sq. yds.</i>  | <i>Sq. yds.</i> | <i>Sq. yds.</i> | <i>Sq. yds.</i> | <i>Sq. yds.</i> | <i>Sq. yds.</i> |
| Northwest  | 1,889,441             | 30,600          | 13,943           | 160,613         | 108,298         | 71,524          | 119,576         | 2,393,955       |
| Northeast  | 243,591               | 156,966         |                  | 17,147          | 1,738           | 55,314          | 469,573         | 944,329         |
| Southeast  | 149,446               | 183,425         |                  | 56,845          | 31,293          | 104,917         | 434,684         | 960,610         |
| Southwest  | 162,491               | 42,485          | 2,943            | 233,973         | 59,578          | 41,606          | 153,530         | 696,606         |
| Georgetown | 141,995               | 16,134          |                  | 60,363          | 21,872          | 10,937          | 39,653          | 290,954         |
| Suburban   | 299,822               | 41,851          |                  | 32,254          |                 | 1,080,000       | 1,425,613       | 2,829,540       |
| Total      | 2,886,786             | 471,461         | 16,846           | 561,195         | 222,779         | 1,314,298       | 2,642,629       | 8,115,994       |

TABLE C.—Statement showing mileage of street pavements July 1, 1903.

| Section.        | Asphalt and coal tar. |               | Asphalt block. |               | Vitrified block. |               | Grand total. |
|-----------------|-----------------------|---------------|----------------|---------------|------------------|---------------|--------------|
|                 | <i>Feet.</i>          | <i>Miles.</i> | <i>Feet.</i>   | <i>Miles.</i> | <i>Feet.</i>     | <i>Miles.</i> |              |
| Northwest ..... | 415,619               | 78.71         | 8,580          | 1.63          | 2,250            | 0.42          | 41,898       |
| Northeast ..... | 64,857                | 12.28         | 32,932         | 6.24          | .....            | .....         | 4,708        |
| Southeast ..... | 39,087                | 7.40          | 44,437         | 8.42          | .....            | .....         | 15,493       |
| Southwest ..... | 41,605                | 7.88          | 11,528         | 2.18          | 500              | .10           | 55,715       |
| Georgetown..... | 39,617                | 7.50          | 5,493          | 1.04          | .....            | .....         | 17,271       |
| Suburban .....  | 75,309                | 14.26         | 12,483         | 2.36          | .....            | .....         | 9,376        |
| Total.....      | 676,094               | 128.03        | 115,453        | 21.87         | 2,750            | .52           | 144,367      |

| Section.        | Cobble.      |               | Macadam.     |               | Gravel.      |               | Total.    |
|-----------------|--------------|---------------|--------------|---------------|--------------|---------------|-----------|
|                 | <i>Feet.</i> | <i>Miles.</i> | <i>Feet.</i> | <i>Miles.</i> | <i>Feet.</i> | <i>Miles.</i> |           |
| Northwest ..... | 19,101       | 3.62          | 14,887       | 2.82          | 38,292       | 7.25          | 540,627   |
| Northeast ..... | 750          | .14           | 11,922       | 2.26          | 121,663      | 23.04         | 236,824   |
| Southeast ..... | 8,623        | 1.63          | 27,546       | 5.22          | 110,449      | 20.90         | 245,543   |
| Southwest ..... | 12,072       | 2.29          | 9,820        | 1.86          | 43,533       | 8.24          | 174,774   |
| Georgetown..... | 7,924        | 1.50          | 3,320        | .63           | 11,891       | 2.16          | 85,016    |
| Suburban .....  | .....        | .....         | 309,250      | 55.57         | 674,061      | 127.66        | 1,080,479 |
| Total.....      | 48,470       | 9.18          | 376,745      | 71.36         | 999,389      | 189.25        | 2,363,265 |



Streets and avenues for year

CHWEST SECTION.

|               |                         |                            |                  | est<br>t. | Name of contractor.       |
|---------------|-------------------------|----------------------------|------------------|-----------|---------------------------|
| curb<br>oved. | Straight<br>curb reset. | Circular<br>curb<br>reset. | Straig<br>curb s |           |                           |
| in. ft.       | Lin. ft.                | Lin. ft.                   | Lin. ft.         |           |                           |
| 539           | 628.79                  | 129.68                     | 1,439.           | 00        | Barber Asphalt Paving Co. |
|               |                         |                            |                  | 00        | Do.                       |
|               |                         |                            |                  | 15        | Do.                       |
|               |                         |                            |                  | 00        | Do.                       |
|               |                         |                            |                  | 00        | Do.                       |
|               |                         |                            |                  | 00        | Do.                       |
|               |                         |                            |                  | 00        | Do.                       |
|               |                         |                            |                  | 00        | Do.                       |

CHWEST SECTION.

|       |          |       |     |    |                                       |
|-------|----------|-------|-----|----|---------------------------------------|
| 90    | 500.39   |       | 90  | 74 | Washington Asphalt Block and Tile Co. |
| 22.40 | 1,234.25 | 43.67 | 90  | 92 | Do.                                   |
| 187   | 2,519.23 |       | 92  | 97 | Do.                                   |
|       |          |       | 927 |    | Do.                                   |

THEAST SECTION.

|      |          |        |       |    |                                       |
|------|----------|--------|-------|----|---------------------------------------|
| 18   | 1,159.36 | 62.85  | 127   | 22 | Washington Asphalt Block and Tile Co. |
| 80   | 711.62   |        | 80    | 09 | Do.                                   |
| 45   | 1,041.94 | 171.73 | 1,059 | 73 | Do.                                   |
| 103  | 62.06    | 27.90  | 399   | 25 | Do.                                   |
| 89   | 1,408.78 | 90.90  | 61    | 06 | Do.                                   |
| 1.30 | 1,257.52 |        | 16    | 98 | Do.                                   |

THEAST SECTION.

|     |          |       |       |    |                                       |
|-----|----------|-------|-------|----|---------------------------------------|
| 12  | 1,152.88 |       | 25    | 88 | Barber Asphalt Paving Co.             |
| 202 | 1,153.49 |       | 1,304 | 62 | Do.                                   |
|     | 653.43   |       | 50    | 25 | Do.                                   |
| 60  | 991.53   |       | 200   | 72 | Do.                                   |
| 43  | 1,198.02 | 18.09 | 96    | 50 | Washington Asphalt Block and Tile Co. |
| 49  | 864.69   | 37.64 | 198   | 69 | Do.                                   |

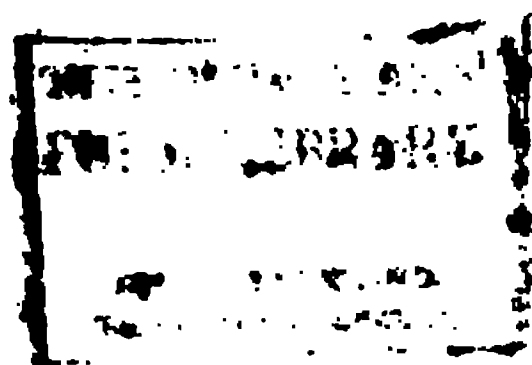
ROGETOWN SECTION.

|  |  |  |      |                           |
|--|--|--|------|---------------------------|
|  |  |  | 0.00 | Barber Asphalt Paving Co. |
|--|--|--|------|---------------------------|

ICIAL SCHEDULE.

|     |          |        |       |      |                                       |
|-----|----------|--------|-------|------|---------------------------------------|
| 103 | 215.48   | 110.45 | 2,112 | 0.00 | Barber Asphalt Paving Co.             |
| 394 | 1,254.95 | 17.08  | 231   | 9.44 | Do.                                   |
| 272 | 1,200.42 |        |       | 7.47 | Washington Asphalt Block and Tile Co. |

Surface.                      b Estimated.







**Stanford Paving Company under**

c Square yards ny.

1

2

3

4

5

6

7

8

9

TABLE (i).—Work of street paving and repairs chargeable to street railroads for year ending June 30, 1903.

WASHINGTON RAILWAY AND ELECTRIC COMPANY.

| Street.  | From—                     | To—                    | Amount.   |
|--|---------------------------|------------------------|-----------|
| Connecticut avenue.....                          | Eighthteenth.....         | Dupont circle .....    | \$472.79  |
| Do.....  | Leroy.....                | Wyoming .....          | 55.48     |
| Second SW .....                                  | C.....                    | Virginia avenue.....   | 4,346.06  |
| Third NW., intersection New York avenue .....    | York avenue .....         |                        | 29.17     |
| Fourth NE .....                                  | T.....                    | V.....                 | 278.17    |
| Fifth SE .....                                   | Pennsylvania avenue ..... | L.....                 | 55.47     |
| Sixteenth SW., entrance to park .....            |                           |                        | 122.41    |
| Seventh NW .....                                 | Pennsylvania avenue ..... | Maryland avenue .....  | 860.23    |
| Eighth NW .....                                  | Sixth .....               | Seventh .....          | 223.99    |
| Ninth NE .....                                   | North Capitol .....       | First.....             | 702.43    |
| Tenth NW .....                                   | Seventh .....             | Ninth .....            | 279.31    |
| North Capitol.....                               | G.....                    | H.....                 | 223.14    |
| Do.....  | R.....                    | T.....                 | 1,104.98  |
| Do.....  | T.....                    | V.....                 | 280.50    |
| East Capitol .....                               | Fourteenth.....           | Fifteenth.....         | 342.43    |
| Florida avenue.....                              | First.....                | Fourth .....           | 53.34     |
| Sixteenth .....                                  | Columbia road .....       | Park .....             | 742.10    |
| Macostia road .....                              |                           |                        | 410.00    |
| Minor repairs.                                   |                           |                        |           |
| SW .....   | Twelfth .....             | Fourteenth .....       | 63.91     |
| NE .....   | Delaware avenue.....      | First.....             | 4.55      |
| NW .....   | New Jersey avenue.....    | Third.....             | 11.83     |
| NW .....   | Ninth .....               | Eleventh .....         | 19.11     |
| NW .....   | do .....                  | Fourteenth.....        | 38.88     |
| NW .....   | North Capitol .....       | Fifteenth.....         | 251.34    |
| NE and NW .....                                  |                           |                        | 168.35    |
| Delaware .....                                   | Delaware avenue.....      | Second .....           | 4.55      |
| Connecticut avenue.....                          | K.....                    | Dupont circle .....    | 141.36    |
| Dupont circle .....                              |                           |                        | 50.05     |
| East Capitol, intersection Second .....          |                           |                        | 7.28      |
| Massachusetts avenue.....                        | Fourth .....              | Seventh .....          | 155.74    |
| New Jersey avenue.....                           | C.....                    | New York avenue.....   | 57.64     |
| North Capitol, intersection New York avenue..... | York avenue.....          |                        | 16.01     |
| New York avenue.....                             | Ninth .....               | Fourteenth.....        | 88.80     |
| First NW .....                                   | E (intersection) .....    | D.....                 | 7.28      |
| Fourth NW., intersections G and Q .....          |                           |                        | 20.96     |
| Four-and-a-half .....                            | Missouri avenue.....      | Maryland avenue .....  | 47.63     |
| Sixth.....                                       | Pennsylvania avenue ..... | Louisiana avenue ..... | 87.50     |
| Eighth SE .....                                  | do .....                  | L.....                 | 6.37      |
| Fifth NW .....                                   |                           |                        | 13.65     |
| Ninth NW .....                                   | Pennsylvania avenue ..... | P.....                 | 214.27    |
| Eleventh NW .....                                |                           |                        | .91       |
| Seventeenth.....                                 | H.....                    | K.....                 | 3.02      |
| Fourteenth.....                                  | New York avenue.....      | B.....                 | 87.61     |
|  |                           |                        | 12,145.59 |

CAPITAL TRACTION COMPANY.

|  |                           |                       |          |
|--|---------------------------|-----------------------|----------|
| First NW .....   | Pennsylvania avenue ..... | Maryland avenue ..... | \$421.59 |
| Connecticut avenue extended west of Rock Creek .....   |                           |                       | 550.00   |
| Repairs made in Connecticut avenue, Pennsylvania avenue, and Eighth SE. paid directly to paving contractor, not shown above. |                           |                       |          |
| Minor repairs.   |                           |                       |          |
| M.....   | Twenty-eighth .....       | Thirty-sixth.....     | 59.84    |
| V.....   | Ninth.....                | Seventeenth.....      | 28.21    |
| Pennsylvania avenue, SE and NW .....   |                           |                       | 246.64   |
| Eighth, SE .....   | Intersection .....        | G.....                | 1.82     |
| Fourteenth, NW .....   | Second .....              |                       | 115.12   |
| Fifteenth, NW .....  |                           |                       | 17.85    |
| Seventeenth, NW .....  |                           |                       | 1.82     |
| Twenty-sixth, NW.....  | Pennsylvania avenue ..... | M.....                | 5.46     |
|  |                           |                       | 1,469.85 |

WASHINGTON, ALEXANDRIA AND MOUNT VERNON RAILROAD.

|            |                           |                 |        |
|------------|---------------------------|-----------------|--------|
| E, NW..... | Thirteen-and-a-half ..... | Fourteenth..... | \$4.55 |
|------------|---------------------------|-----------------|--------|

TABLE H.—*Work done by day labor under appropriation of "Current repairs to streets, avenues, and alleys" from July 1, 1902, to June 30, 1903.*

|                                   |                |             |
|-----------------------------------|----------------|-------------|
| Brick sidewalks laid.....         | square yards.. | 3,157.00    |
| Brick sidewalk relaid.....        | do.....        | 25,276.00   |
| Asphalt block paved.....          | do.....        | 1,197.10    |
| Asphalt block repaved.....        | do.....        | 3,685.00    |
| Vitrified brick repaved.....      | do.....        | 1,275.00    |
| Vitrified block paved.....        | do.....        | 1,328.38    |
| Vitrified block repaved.....      | do.....        | 1,311.00    |
| Cobble paved.....                 | do.....        | 11,582.00   |
| Curb set.....                     | linear feet..  | 5,005.17    |
| Curb reset.....                   | do.....        | 2,292.00    |
| Flag laid.....                    | do.....        | 797.00      |
| Flag relaid.....                  | do.....        | 4,055.00    |
| Granite block.....                | square yards.. | 3,676.00    |
| Asphalt tile sidewalk relaid..... | do.....        | 5,034.00    |
| Cement sidewalk.....              | do.....        | 22.21       |
| Grading.....                      | cubic yards..  | 4,467.92    |
| Graveling.....                    | square yards.. | 2,033.00    |
| Sewer pipe.....                   | linear feet..  | 120.00      |
| Labor.....                        |                | \$25,847.94 |
| Material.....                     |                | 2,740.56    |
| Total.....                        |                | 28,588.52   |

Dangerous holes repaired, 2,872.







## OPERATIONS OF THE ENGINEER DEPARTMENT, D. O.

11

*lar permit.*

[illegible]



**permit—Continued.**[illegible]

TABLE I.—Regular

| Job No. | Location.   | For whom done.        | Grading.        | Cement sidewalk. | Curb re-set.    |
|---------|---|-----------------------|-----------------|------------------|-----------------|
|         |   |                       | <i>Cu. yds.</i> | <i>Sq. yds.</i>  | <i>Lin. ft.</i> |
| 2159    | East side Fifteenth street between P and Rhode Island avenue. | J. M. Schick .....    | .....           | 82.59            | .....           |
| 2163    | 1609 First street NW .....                                    | Cassius M. Buck ..... | .....           | 16.74            | .....           |
| 2165    | 1521 New Hampshire avenue NW .....                            | Fred. Drew .....      | .....           |                  | .....           |
| 2172    | 1512 Grant street .....                                       | E. A. Stephan .....   | .....           |                  | .....           |
| 2173    | 1514 Grant street .....                                       | Anton Zichtl .....    | .....           |                  | .....           |
| 2174    | 2204 Decatur place .....                                      | Moore & Hill .....    | .....           | 14.24            | .....           |
| 2177    | 1516 Grant street .....                                       | Ellen Rhodes .....    | .....           |                  | .....           |
| 2178    | Alley, square 963 .....                                       | James D. Burn .....   | .....           |                  | .....           |
| 2193    | 1918 I street, NW .....                                       | A. P. Fardon .....    | .....           | 32.58            | .....           |
|         | Total .....   | .....                 | 5,929.50        | 6,698.07         | 1,824.70        |

permit—Continued.

| Curb set. |          |          | Vitri-<br>fied<br>block<br>paved. | As-<br>phalt<br>block<br>paved. | Cob-<br>ble. | Flag<br>laid. | Flag<br>relaid. | Brick<br>side-<br>walk<br>paved. | Brick<br>side-<br>walk<br>re-<br>paved. | Gran-<br>ite<br>block. | As-<br>phalt<br>tile. | Cost.     |
|-----------|----------|----------|-----------------------------------|---------------------------------|--------------|---------------|-----------------|----------------------------------|---|------------------------|-----------------------|-----------|
| 6 by 20.  | 8 by 8.  | Old.     |                                   |                                 |              |               |                 |                                  |   |                        |                       |           |
| Lin. ft.  | Lin. ft. | Lin. ft. | Sq. yds.                          | Sq. yds.                        | Sq. yds.     | Lin. ft.      | Lin. ft.        | Sq. yds.                         | Sq. yds.                                | Sq. yds.               | Sq. yds.              |           |
| .....     | 95.65    | .....    | .....                             | .....                           | .....        | .....         | .....           | .....                            | .....                                   | .....                  | .....                 | \$202.87  |
| .....     | 25.23    | .....    | .....                             | .....                           | .....        | .....         | .....           | .....                            | .....                                   | .....                  | .....                 | 18.28     |
| 40        | .....    | .....    | .....                             | .....                           | .....        | .....         | .....           | .....                            | .....                                   | .....                  | .....                 | 28.47     |
| 40        | .....    | .....    | .....                             | .....                           | .....        | .....         | .....           | .....                            | .....                                   | .....                  | .....                 | 89.80     |
| .....     | .....    | .....    | .....                             | .....                           | .....        | .....         | .....           | .....                            | .....                                   | .....                  | .....                 | 89.80     |
| 25.22     | .....    | .....    | .....                             | .....                           | .....        | .....         | .....           | .....                            | .....                                   | .....                  | .....                 | 17.65     |
| .....     | .....    | .....    | .....                             | .....                           | .....        | .....         | .....           | .....                            | .....                                   | .....                  | .....                 | 24.88     |
| .....     | .....    | .....    | .....                             | .....                           | .....        | .....         | .....           | .....                            | .....                                   | .....                  | .....                 | 205.27    |
| .....     | .....    | .....    | .....                             | .....                           | .....        | .....         | .....           | .....                            | .....                                   | .....                  | .....                 | 85.57     |
| 3,088.07  | 4,380.58 | 381      | 300.47                            | 3,164.50                        | 107          | .....         | 113             | 1,378.50                         | 112                                     | 57.83                  | .....                 | 26,438.25 |

TABLE K.—Assessment and

| Job No. | Location.  | Grading. | Cement side-walk. | Curb reset. | Curb set. |          |          |
|---------|--|----------|-------------------|-------------|-----------|----------|----------|
|         |  |          |                   |             | 6 by 20.  | 8 by 8.  | OM.      |
|         |  | Cu. yds. | Sq. yds.          | Lin. ft.    | Lin. ft.  | Lin. ft. | Lin. ft. |
| 3056    | North side I street, between Twelfth and Thirteenth streets.....   |          | 411.33            | 4.60        |           | 431.00   |          |
| 3057    | West side Twenty-second street, between Q and Massachusetts avenue.....  |          | 113.62            |             |           |          |          |
| 3058    | Lot 153, U street, between Seventeenth and alley west.....   |          | 100.07            |             |           |          |          |
| 3059    | North side U street, between Sixteenth and Seventeenth streets NW.   | 5        | 376.39            |             |           |          |          |
| 3060    | South side G street NW., between Fifth and Sixth streets.....  |          | 118.76            |             |           |          |          |
| 3061    | Connecticut avenue, between Dupont circle and N street, and N street, between Connecticut avenue and Eighteenth street.....                |          | 410.06            |             |           | 335.50   |          |
| 3062    | East side Twenty-first street NW., between Q and R streets.....  | 5        | 207.30            |             |           | 122.24   | 4        |
| 3063    | South side U street NW., between First and Second streets.....   |          | 224.23            |             | 134.71    |          |          |
| 3065    | West side Third street, between Rhode Island avenue and south end of existing walk.....  | 527      | 165.66            |             |           | 235.00   |          |
| 3066    | Both sides Columbia street NW., from O to Q streets.....   |          |                   |             |           | 1,736.79 |          |
| 3067    | Both sides Kenesaw avenue, from Thirteenth street east.....  | 10       |                   |             |           | 528.38   |          |
| 3068    | East side Thirty-second street NW., between Q and U, and west side, between R and U streets.....   |          | 1,818.70          | 15.00       |           |          |          |
| 3077    | North side Columbia road and Connecticut avenue extended, from Le Roy place to California avenue.....                                      |          | 388.47            |             |           | 297.06   |          |
| 3078    | West side Columbia road, from California avenue to Twentieth street extended, and from Nineteenth street extended to Baltimore street..... |          | 844.46            |             |           |          |          |
| 3079    | East side Columbia road, from Florida avenue to Wyoming avenue.....  | 83       | 471.84            | 129         |           | 30.36    |          |
| 3084    | Both sides H street NE., from North Capitol to First street.....   |          |                   |             |           | 1,660.28 |          |
| 3087    | North side Decatur place, between Twenty-second street and Florida avenue.....   |          | 400.62            |             |           |          |          |
| 3089    | Both sides Morton place NE., Sixth street to Seventh street.....   |          | 790.66            | 80          | 1,282.12  |          |          |
| 3093    | South side 8 street NW., from Twenty-second street to Phelps place.....  |          | 258.16            | 10          |           | 32       |          |
| 3097    | South side W street NW., between Tenth street and Florida avenue.....  |          | 230.09            | 35          |           | 234.50   |          |
| 3099    | West side Fourteenth street NW., between Columbia road and Kenesaw avenue.....   |          | 314.20            |             |           |          |          |
| 3100    | West side Fourteenth street NW., between Chapin street and Willing place.....  |          | 290.34            |             |           |          |          |
| 3101    | West side Fourteenth street NW., between Florida avenue and Staughton street.....  |          | 23.24             |             |           |          |          |
| 3102    | East side Fourteenth street NW., between Clifton and Roanoke.....  |          | 378.78            |             |           |          |          |
| 3105    | Both sides Connecticut avenue, between Cincinnati street and Cathedral avenue.....   |          | 2,941.09          |             |           |          |          |
| 3106    | Both sides Cincinnati street, between Connecticut avenue and bridge.....   |          | 578.32            |             |           |          |          |
| 3109    | Both sides Kenesaw avenue, between Fourteenth and Sixteenth streets NW.....  | 93       |                   | 16          | 1,780     |          |          |
| 3116    | Both sides Sixteenth street NE., between Rosedale and Gales streets.....   |          | 314.84            | 50          |           |          |          |
| 3117    | East side Thirteenth street NW., between Harvard street and Columbia road.....   |          | 192.26            |             | 166.50    |          |          |
| 3118    | East side Second street SE., between M and N streets.....  |          | 652.89            |             | 672.40    |          |          |
| 3120    | East side Vermont avenue NW., between L and M streets.....   |          | 250.06            | 258         |           |          | 15       |
| 3121    | North side I street NW., between Fourteenth and a point 40 feet west.....  |          | 50.61             |             |           |          |          |
| 3123    | North side New York avenue NW., between Fourteenth and H streets.....  |          | 367.26            |             |           | 212      |          |



and permit work, 1903.

| Vitrified<br>block<br>paved. | Asphalt<br>block<br>paved. | Cobble.  | Asphalt<br>tile<br>relaid. | Flag<br>laid. | Flag<br>relaid. | Brick<br>sidewalk<br>laid. | Brick<br>sidewalk<br>relaid. | Granite<br>block<br>laid. | Gravel-<br>ing. | Cost.    |
|------------------------------|----------------------------|----------|----------------------------|---------------|-----------------|----------------------------|------------------------------|---------------------------|-----------------|----------|
| Sq. yds.                     | Sq. yds.                   | Sq. yds. | Sq. yds.                   | Lin. ft.      | Lin. ft.        | Sq. yds.                   | Sq. yds.                     | Sq. yds.                  | Sq. yds.        |          |
|                              |                            | 287      |                            |               |                 |                            |                              | 66                        | 208             | \$118.25 |
|                              | 427                        |          |                            |               |                 |                            |                              |                           |                 | 266.85   |
|                              | 744                        |          |                            |               |                 |                            |                              |                           |                 | 1,608.91 |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 12.25    |
|                              |                            | 153      |                            |               |                 |                            |                              |                           |                 | 51.00    |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 1,177.11 |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 910.96   |
| 344                          |                            | 4        |                            |               |                 |                            |                              | 3                         |                 | 583.82   |
| 576                          |                            |          |                            |               |                 |                            |                              |                           |                 | 900.17   |
| 270                          |                            |          |                            |               |                 |                            |                              |                           |                 | 441.76   |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 172.70   |
| 73.60                        |                            |          |                            |               |                 |                            |                              |                           |                 | 98.98    |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 1,179.41 |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 740.96   |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 1,023.62 |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 297.27   |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 680.39   |
|                              | 295.20                     | 9        |                            |               |                 |                            |                              |                           |                 | 1,055.22 |
|                              | 922                        |          |                            |               |                 |                            |                              |                           |                 | 652.52   |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 1,509.91 |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 6.19     |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 722.12   |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 628.11   |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 458.30   |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 196.12   |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 439.99   |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 417.89   |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 300.11   |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 509.56   |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 623.91   |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 304.41   |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 801.50   |
| 20,426                       | 27.50                      | 8        |                            |               |                 |                            |                              |                           |                 | 4,071.92 |
|                              | 2,940                      |          |                            |               |                 |                            |                              |                           |                 | 5,412.47 |
| 525                          |                            |          |                            |               |                 |                            |                              |                           |                 | 823.71   |
| 1,464                        |                            |          |                            |               |                 |                            | 28                           | 3                         |                 | 696.52   |
|                              | 1,805                      |          |                            |               |                 |                            |                              |                           |                 | 2,553.32 |
| 1,507                        |                            |          |                            |               |                 | 47                         |                              |                           |                 | 6,941.51 |
|                              | 340                        |          |                            |               |                 |                            |                              |                           |                 | 3,358.93 |
|                              | 1,732                      |          |                            |               |                 |                            |                              | 71                        |                 | 548.76   |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 3,565.53 |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 275.19   |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 560.27   |





TABLE K.—Assessment and

| Job No. | Location.   | Grading.        | Cement side-walk. | Curb reset.     | Curb set.       |                 |                 |
|---------|---|-----------------|-------------------|-----------------|-----------------|-----------------|-----------------|
|         |   |                 |                   |                 | 6 by 20.        | 8 by 8.         | Old.            |
|         |   | <i>Cu. yds.</i> | <i>Sq. yds.</i>   | <i>Lin. ft.</i> | <i>Lin. ft.</i> | <i>Lin. ft.</i> | <i>Lin. ft.</i> |
| 3124    | North side Seaton street NE., between North Capitol and Lincoln avenue  |                 | 224.76            |                 | 290.60          |                 |                 |
| 3125    | East side Eighth street SE., from D to G streets, from I to K, and Virginia avenue to L, and west side Eighth, from D to E streets  |                 |                   | 158.62          |                 | 1,791.28        | 84.50           |
| 3126    | Alleys, block 7, Bloomingdale   | 883             |                   | 10              |                 |                 | 28              |
| 3127    | Alley in square 408   | 17              |                   |                 |                 |                 |                 |
| 3130    | Alley, square 920   |                 | 69.92             |                 |                 |                 |                 |
| 3131    | East side Seventh street, between Keokuk and Lowell   |                 |                   |                 |                 |                 |                 |
| 3134    | Alley, block 5, Dobbins's addition  | 95              |                   | 30              | 18.41           |                 |                 |
| 3135    | Alley, blocks 1 and 2, addition to Le Droit Park  |                 |                   |                 |                 |                 |                 |
| 3136    | Alley, square 288   |                 | 87.33             |                 |                 |                 |                 |
| 2139    | South side R street NW., between Twenty-second and Sheridan circle  |                 | 326.44            |                 | 291             |                 |                 |
| 3141    | North side Philadelphia street, between Brightwood avenue and Eighth  |                 |                   |                 |                 |                 |                 |
| 3144    | East side Twelfth street, between I and Georgia avenue SE   |                 |                   |                 |                 |                 | 241             |
| 3145    | East side Twelfth street, between K and L streets SE  |                 |                   |                 | 108.21          |                 |                 |
| 3146    | South side Georgia avenue, between Eleventh and Twelfth streets SE  | 15              |                   |                 | 166.41          |                 |                 |
| 3151    | South side Massachusetts avenue, between Twentieth and Twenty-first streets NW  |                 | 40.75             |                 |                 |                 |                 |
| 3154    | Alley, square 674   |                 |                   |                 |                 |                 |                 |
| 3163    | Alley, square 111   |                 |                   |                 |                 |                 |                 |
| 3164    | Alley, block 3, Bloomingdale  |                 |                   |                 |                 |                 |                 |
| 3165    | North side B street NE., between Delaware avenue and First street   |                 | 523.62            | 610             |                 |                 | 22              |
| 3168    | South side Columbia road, between Eighteenth and Champlain avenue, and north side Columbia road between Adams Mill road and lot 201 |                 | 397.41            |                 |                 |                 |                 |
| 3169    | E street, between Eighteenth and Nineteenth streets SE  |                 |                   |                 |                 |                 | 26              |
| 3172    | North side New York avenue NW., between Twentieth street and Virginia avenue  |                 | 298.23            |                 |                 |                 |                 |
| 3174    | East side Corcoran street, between Olivet and Gallaudet streets   | 259             |                   |                 |                 |                 |                 |
| 3175    | North side Olivet street, between Corcoran street and Capitol avenue  | 98              |                   |                 |                 |                 |                 |
| 3176    | North side Olivet street, between Capitol avenue and B. & O. R. R.  | 48              |                   |                 |                 |                 | 8               |
| 3177    | South side Mount Olivet road, between B. & O. R. R. and Twelfth street  | 68              |                   |                 |                 |                 | 8               |
| 3179    | Both sides Eighth street NW., between Grant and Sheridan avenues  | 194             |                   | 204             |                 |                 |                 |
| 3194    | South side Sheridan street west of Fourteenth street NW   |                 | 310.18            |                 |                 | 524.24          |                 |
|         | Total   | 11,965          | 23,190.07         | 4,616.46        | 5,316.98        | 9,995.68        | 591             |

permit work, 1903—Continued.

| Vitrified<br>block<br>paved. | Asphalt<br>block<br>paved. | Cobble.  | Asphalt<br>tile<br>relaid. | Flag<br>laid. | Flag<br>relaid. | Brick<br>sidewalk<br>laid. | Brick<br>sidewalk<br>relaid. | Granite<br>block<br>laid. | Gravel-<br>ing. | Cost.     |
|------------------------------|----------------------------|----------|----------------------------|---------------|-----------------|----------------------------|------------------------------|---------------------------|-----------------|-----------|
| Sq. yds.                     | Sq. yds.                   | Sq. yds. | Sq. yds.                   | Lin. ft.      | Lin. ft.        | Sq. yds.                   | Sq. yds.                     | Sq. yds.                  | Sq. yds.        |           |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | \$611.38  |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 2,260.99  |
| 1,839                        |                            | 9        |                            |               |                 |                            | 9                            |                           |                 | 3,114.52  |
| 171                          |                            |          |                            |               |                 |                            |                              |                           |                 | 384.63    |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 95.45     |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 61.20     |
| 497                          |                            |          |                            |               |                 |                            |                              |                           |                 | 837.41    |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 58.54     |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 119.21    |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 504.26    |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 42.63     |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 73.29     |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 124.83    |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 181.71    |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 44.50     |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 1,487.68  |
| 36.06                        |                            |          |                            |               |                 |                            |                              |                           |                 | 584.99    |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 72.05     |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 721.80    |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 419.34    |
| 12.50                        |                            |          |                            |               |                 | 257                        | 17                           |                           |                 | 261.77    |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 334.04    |
|                              |                            |          |                            |               |                 | 304                        |                              |                           |                 | 850.53    |
|                              |                            |          |                            |               | 38              | 122                        |                              |                           |                 | 149.82    |
|                              |                            |          |                            | 14            |                 | 53                         |                              |                           |                 | 81.63     |
|                              |                            |          |                            |               |                 | 101                        |                              |                           |                 | 117.35    |
|                              |                            | 18       |                            | 20            |                 | 567                        |                              |                           |                 | 526.64    |
|                              |                            |          |                            |               |                 |                            |                              |                           |                 | 925.18    |
| 27,747.16                    | 9,232.70                   | 525      |                            | 34            | 38              | 1,469                      | 75                           | 143                       | 208             | 86,146.60 |

TABLE L.—Sidewalk

| Job No. | Location.  | Grading.        | Cement sidewalk. | Curb reset.     |
|---------|--|-----------------|------------------|-----------------|
|         |  | <i>Cu. yds.</i> | <i>Sq. yds.</i>  | <i>Lin. ft.</i> |
| 2500    | North side Pennsylvania avenue, from Madison place, east square 221 .....  |                 | 436.94           | 2               |
| 2501    | East side Seventh street NW., abutting Manual Training School, and south side Rhode Island avenue, between Seventh street and alley east ..... |                 | 307.95           |                 |
| 2502    | North side South Carolina avenue and east side Second street, abutting Dent School .....   |                 | 469.51           | 40.60           |
| 2503    | South side Pennsylvania avenue, between Ninth and Tenth, abutting Marine Hospital .....  |                 | 426.31           | 11              |
| 2506    | West side Fifteenth street and east side Kentucky avenue, reservation 263 .....  |                 | 128.01           |                 |
| 2507    | Schoolhouse, Philadelphia street, Petworth .....   |                 | 94.63            |                 |
| 2508    | Brightwood school, Brightwood avenue NW .....  | 54              |                  |                 |
| 2509    | Vermont avenue, Tenth and U streets NW, reservation 170 .....  | 90              |                  | 8               |
| 2510    | Twenty-first, New York and Virginia avenue, reservation 105 .....  | 325             |                  |                 |
| 2513    | West side Thirty-second street, north of lot 208, square 1279, and east side Thirty-second street north of lots 31 to 36, square 1280 .....    |                 | 705.49           |                 |
| 2518    | New Public Library, K street, between Seventh and Ninth streets .....  | 450             | 843.10           | 56.4            |
| 2520    | North side New York avenue, between Fourteenth and H streets, reservation 172 .....  |                 | 214.06           |                 |
| 2523    | North Capitol street side old Government Printing Office .....   |                 |                  | 110             |
| 2525    | South side North Carolina avenue NE., between No. 8 engine house and stables .....   |                 | 36.45            | 39.10           |
| 2526    | Eighth street SE., between Pennsylvania avenue and L street .....  |                 |                  |                 |
| 2528    | Reservations 252 and 253, between Eleventh and Twelfth, K and Georgia avenue SE .....  |                 |                  | 72.50           |
|         | Total .....  | 919             | 3,662.53         | 339.65          |

and curb, 1903.

| Curb set. |          |          | Asphalt<br>tile<br>paved. | Vitrified<br>tile<br>paved. | Asphalt<br>block<br>roadway. | Brick<br>sidewalk<br>laid. | Brick<br>sidewalk<br>relaid. | Flag re-<br>laid. | Coat.    |
|-----------|----------|----------|---------------------------|-----------------------------|------------------------------|----------------------------|------------------------------|-------------------|----------|
| 6 by 20.  | 8 by 8.  | Old.     |                           |                             |                              |                            |                              |                   |          |
| Lin. ft.  | Lin. ft. | Lin. ft. | Sq. yds.                  | Sq. yds.                    | Sq. yds.                     | Sq. yds.                   | Sq. yds.                     | Lin. ft.          |          |
|           | 242.20   |          |                           |                             |                              |                            |                              |                   | \$725.00 |
|           | 107.28   | 95       |                           |                             |                              |                            |                              |                   | 487.40   |
| 150.40    |          |          |                           |                             |                              |                            |                              |                   | 674.81   |
|           | 327.59   |          |                           |                             |                              |                            |                              |                   | 810.66   |
|           | 184.40   |          |                           |                             |                              |                            |                              |                   | 328.24   |
|           |          |          |                           |                             |                              |                            |                              |                   | 105.04   |
|           | 251.60   |          | 125                       |                             | 12                           |                            |                              |                   | 118.48   |
|           |          |          | 230                       |                             |                              |                            |                              |                   | 858.92   |
|           |          |          |                           | 412                         |                              |                            |                              |                   | 227.62   |
|           |          |          |                           |                             |                              |                            |                              |                   | 753.61   |
|           | 569.89   |          |                           |                             |                              |                            |                              |                   | 1,861.12 |
|           | 223      |          |                           |                             |                              |                            |                              |                   | 478.45   |
|           | 229.84   |          |                           |                             |                              | 806                        |                              |                   | 558.16   |
|           |          |          |                           |                             |                              |                            |                              |                   | 43.78    |
|           |          |          |                           |                             |                              |                            |                              |                   | 878.90   |
|           |          | 699.50   |                           |                             |                              |                            |                              | 157               | 252.25   |
| 150.40    | 2,135.80 | 794.50   | 355                       | 412                         | 12                           | 806                        |                              | 157               | 8,657.44 |

TABLE M.—*Miscellaneous work, 1903.*

1903

— — — —







TABLE P.—Grading streets, alleys, and roads, 1903—Continued.

| Job No. | Location.   | Gravel.    | Grading.   | Cost.    |
|---------|---|------------|------------|----------|
|         |   | Sq. yards. | Cu. yards. |          |
| 1909    | Swann street between Sixteenth and Seventeenth streets .....                  | .....      | 624        | \$117.80 |
| 1910    | Dover street between Twelfth and Fourteenth streets .....                     | .....      | 913        | 92.80    |
| 1912    | D street between Fifteenth and Sixteenth streets SE.....                      | .....      | 504        | 53.25    |
| 1913    | Lanier avenue between Adams Mill road, 200 feet east of Ontario..             | .....      | 580        | 63.00    |
| 1914    | N street NE. between Twelfth street and Trinidad avenue .....                 | .....      | 8,584      | 1,471.19 |
| 1915    | Rhode Island avenue NE. between North Capitol street and Lincoln avenue ..... | .....      | 2,150      | 272.37   |
| 1917    | L street SE. between Eleventh and Thirteenth streets .....                    | .....      | 2,942      | 360.75   |
| 1919    | Duncan street NE., Fourteenth to Fifteenth streets .....                      | .....      | 4,690      | 782.50   |
| 1922    | Propagating garden .....  | .....      | 600        | 45.00    |
| 1923    | North side Massachusetts avenue from Woodley Inn to Joliet street.....        | .....      | 156        | 31.50    |
| 1926    | Eckington place between Florida avenue and Q street.....                      | .....      | 7,524      | 817.95   |
|         | Total .....   | 1,785.55   | 33,260     | 4,850.23 |

REPORT OF THE SUPERINTENDENT OF STREETS.

WASHINGTON, D. C., July 1, 1903.

SIR: I have the honor to submit herewith the annual report of the operations under my charge for the fiscal year ended June 30, 1903.

Table H is a summary of work done (by day labor, except cement sidewalks, which work was executed by contract) under the appropriation for "Current repairs to streets, avenues, and alleys." The cost of this work was \$28,588.52, including the repairs to 2,872 dangerous holes. Of this amount, about one-third was sidewalk and alley work and the other two-thirds repairs to street roadways.

Table I is a list of work done under the permit system, by which the property owners requested the improvements and paid one-half the cost, the District paying the other half. Total, \$26,438.25.

Table K is a list of the work done under the assessment system. One-half the cost of work done under this system is charged against the abutting property. The total cost of such work was \$86,146.60.

Table L is a list of work paid for from the appropriation for "Replacing sidewalks and curbs around public reservations and municipal buildings." The amount expended under this head was \$8,657.44.

Table N is a list of work done in public space for private parties, for which they paid the entire cost. Deposit to cover the estimated cost of the work is required in advance of the work being done. This work amounted to \$416.72.

H. N. Moss,  
Superintendent of Streets.

The ENGINEER OF HIGHWAYS, DISTRICT OF COLUMBIA.

Respectfully transmitted to the Engineer Commissioner, District of Columbia, through Capt. H. C. Newcomer.

C. B. HUNT,  
Engineer of Highways, D. C.

REPORT OF THE SUPERINTENDENT OF COUNTY ROADS.

WASHINGTON, October 6, 1903.

Mr. C. B. HUNT,  
Engineer of Highways.

SIR: I have the honor to submit report of the operations of the county road division during the fiscal year ended June 30, 1903.

I desire to invite attention to the fact that the amount of funds heretofore appropriated for repairs to roads is quite inadequate to keep the roads in proper repair, and I wish to strongly recommend that \$150,000 be asked of Congress for this purpose.

The mileage to be covered by these funds is, outside of paved portions, as follows:

|                  | Miles. |
|------------------|--------|
| Macadam .....    | 55.73  |
| Gravel.....      | 71.21  |
| Unimproved ..... | 60.13  |
|                  | 187.07 |

Very respectfully,

MORRIS HACKER,  
Superintendent of Roads.



Expenditures for repairing county roads and suburban streets, fiscal year 1902-3—Cont'd.

| Job No.               | Location.                              | Cost.      |
|-----------------------|--|------------|
| SECTION IV—continued. |  |            |
| 4142                  | Ridge road.....                        | \$235. 93  |
| 4219                  | Bennings road .....                    | 1, 617. 70 |
|                       |  | 2, 550. 68 |
|                       | Dangerous holes and minor repairs..... | 4, 581. 32 |
|                       | Total.....                             | 7, 182. 00 |

|  |  |               |
|--|--|---------------|
| RECAPITULATION.                              |  |               |
| Section I.....                               |  | \$18, 121. 18 |
| Section II.....                              |  | 31, 099. 67   |
| Section III.....                             |  | 18, 169. 45   |
| Section IV.....                              |  | 7, 182. 00    |
| Total .....                                  |  | 74, 522. 30   |
| Salaries.....                                |  | 3, 956. 72    |
| Hire of horse and buggy .....                |  | 361. 00       |
| Blacksmithing.....                           |  | 444. 05       |
| Purchase of tools.....                       |  | 190. 85       |
| Breaking stone and miscellaneous labor ..... |  | 510. 33       |
| Material purchased for general use.....      |  | 14. 75        |
| Total.....                                   |  | 80, 000. 00   |
| Appropriation, \$80, 000.                    |  |               |

Statement showing number of per diem employees, other than day laborers, surface division, employed upon regular and continuous work for thirty days or more, and appropriations from which paid, during the fiscal year ended June 30, 1903.

| Designation.                    | Number. | Rate.                            |
|---------------------------------|---------|----------------------------------|
| Assistant engineers.....        | 2       | One at \$6 and one at \$4.       |
| Engineer of bridges.....        | 1       | \$125 and \$175. <sup>a</sup>    |
| Transitmen .....                | 2       | \$4.                             |
| Rodmen .....                    | 3       | \$3.                             |
| Chainmen .....                  | 3       | \$2.25.                          |
| Draftsmen .....                 | 2       | One at \$4.50 and one at \$3.50. |
| Clerks .....                    | 3       | \$4.50. <sup>b</sup>             |
| Do .....                        | 5       | \$4. <sup>c</sup>                |
| Do .....                        | 1       | \$3.25 and \$3.50. <sup>c</sup>  |
| Do .....                        | 1       | \$3.50.                          |
| Inspectors .....                | 1       | \$5.                             |
| Do .....                        | 16      | \$4.                             |
| Do .....                        | 1       | \$3.50.                          |
| Do .....                        | 1       | \$2.                             |
| Foremen.....                    | 11      | \$4.                             |
| Subforemen.....                 | 3       | \$3.                             |
| Rollermen .....                 | 3       | \$3.50.                          |
| Plumbers .....                  | 1       | \$3.50.                          |
| Bridgekeepers .....             | 4       | \$50. <sup>a</sup>               |
| Messengers .....                | 1       | \$1.75.                          |
| Do .....                        | 1       | \$1.50.                          |
| Superintendent of stables ..... | 1       | \$5. <sup>d</sup>                |
| Hostlers.....                   | 1       | \$1.75.                          |
| Drivers.....                    | 2       | \$1.75.                          |
| Do .....                        | 5       | \$1.50 and \$1.75.               |
| Do .....                        | 1       | \$1.50.                          |

<sup>a</sup> Rate per month.  
<sup>b</sup> One clerk at \$4.50, 1 at \$4, and 1 at \$3.50, paid from surface appropriations for four and one-half months of the year.  
<sup>c</sup> Two clerks, at \$4, paid from surface appropriations for four months of the year.  
<sup>d</sup> One superintendent of stables paid from surface appropriations for four months of the year.

|  |  |               |
|--|--|---------------|
| Appropriations from which paid.                          |  |               |
| Improvements and repairs, 1903 .....                     |  | \$54, 742. 54 |
| Improvements and repairs, 1902 .....                     |  | 516. 93       |
| Bathing beach.....                                       |  | 134. 22       |
| James Creek Canal (fencing) .....                        |  | 106. 89       |
| Extension of streets and avenues (Sixteenth street)..... |  | 318. 50       |
| Extension high service system .....                      |  | 42. 78        |
| Emergency fund.....                                      |  | 5. 95         |
| Miscellaneous deposits.....                              |  | 896. 33       |
| Deposit and assessment fund .....                        |  | 3, 441. 75    |
| Grand total .....  |  | 59, 705. 89   |





















MATERIALS.

|  |          |           |
|--|----------|-----------|
| Lumber and cedar posts .....   | 1,396.82 |           |
| Woven-wire netting .....   | 1,000.00 |           |
| Telegraph wire, for making hooks.....  | 52.00    |           |
| Wire staples .....   | 28.00    |           |
| Galvanized strap iron for boxes .....  | 87.17    |           |
| Leather straps for strapping trees.....  | 54.00    |           |
| One tool wagon .....   | 47.00    |           |
| Soil .....   | 152.30   |           |
| Nails, various sizes .....   | 102.38   |           |
| Repairing fence on Highland Terrace.....   | 174.00   |           |
| Grass seed, manure, and fertilizer .....   | 89.18    |           |
| Four lawn mowers .....   | 34.40    |           |
| One typewriter (Underwood) .....   | 85.00    |           |
| Street-car tickets .....   | 30.00    |           |
| Introducing water service to reservation .....   | 37.00    |           |
| Miscellaneous items (hose, rope, horseshoes, etc.).....  | 292.24   |           |
|  |          | 3,661.49  |
|  |          | 25,947.32 |
| Balance unexpended (park commission appropriation, \$62.74,<br>and emergency fund, \$8.05) ..... |          | 70.79     |

Trees on the streets.

| Trees.                   | Previously<br>planted. | Planted<br>during<br>year. | Removed<br>during<br>year. | Now on<br>streets. |
|--------------------------|------------------------|----------------------------|----------------------------|--------------------|
| Ash .....                | 735                    |                            | 11                         | 724                |
| Catalpa .....            | 600                    |                            | 9                          | 591                |
| Cypress .....            | 26                     |                            |                            | 26                 |
| Elms .....               | 8,052                  | 207                        | 37                         | 8,222              |
| Horse chestnuts.....     | 250                    | 2                          |                            | 252                |
| Kentucky coffee .....    | 105                    |                            |                            | 105                |
| Lindens.....             | 7,000                  | 65                         | 26                         | 7,039              |
| Locusts .....            | 1,050                  |                            | 19                         | 1,031              |
| Soft maples .....        | 25,671                 | 153                        | 154                        | 25,670             |
| Norway maple .....       | 7,182                  | 336                        | 50                         | 7,468              |
| Red maples .....         | 925                    |                            | 8                          | 917                |
| Sycamore maples .....    | 375                    |                            | 4                          | 371                |
| Sugar maples .....       | 7,680                  | 442                        | 19                         | 8,103              |
| Negundoes.....           | 1,800                  |                            | 55                         | 1,745              |
| Pin oaks.....            | 580                    | 619                        | 3                          | 1,196              |
| Red oaks .....           | 417                    |                            |                            | 417                |
| Sw. wh. oaks.....        | 50                     |                            |                            | 50                 |
| English oaks .....       | 82                     |                            |                            | 82                 |
| Willow oaks.....         | 10                     |                            |                            | 10                 |
| Car. poplars.....        | 6,719                  |                            | 38                         | 6,681              |
| Athenian poplars .....   | 750                    |                            | 18                         | 732                |
| Turkeystan poplars ..... | 42                     |                            |                            | 42                 |
| Mixed poplars.....       | 1,200                  |                            |                            | 1,200              |
| Sycamores .....          | 11,240                 | 401                        | 41                         | 11,600             |
| Sweet gums .....         | 230                    |                            |                            | 230                |
| Ginckoes.....            | 540                    | 85                         | 5                          | 620                |
| Tulips.....              | 2,020                  |                            | 15                         | 2,005              |
| Miscellaneous.....       | 300                    |                            | 22                         | 278                |
| Total.....               | 85,631                 | 2,310                      | 534                        | 87,407             |

NOTE.—The above number includes the 1,144 trees in Petworth, as reported to you December 3, 1902.

T. LANHAM,

Superintendent of Parking, District of Columbia.

Maj. JOHN BIDDLE,

Corps of Engineers, U. S. Army,

Engineer Commissioner, District of Columbia.

(Through Capt. H. C. Newcomer.)

**SUBSURFACE AND BUILDING DIVISIONS.**

Capt. CHESTER HARDING,

*Corps of Engineers, United States Army, Assistant to the Engineer Commissioner in charge.*

|  |   |
|--|---|
| WATER DISTRIBUTION.....                  | W. A. MCFARLAND,<br><i>Superintendent Water Department</i>                      |
| WATER RATES.....                         | GEORGE F. GREEN,<br><i>Water Registrar and Chief Clrk.<br/>Water Department</i> |
| SEWER CONSTRUCTION AND MAINTENANCE ..... | D. E. MCCOMB,<br><i>Superintendent of Sewers.</i>                               |
| PLUMBING PLANS AND INSPECTION.....       | H. B. DAVIS,<br><i>Inspector of Plumbing.</i>                                   |
| BUILDING AND BUILDING INSPECTION.....    | { SNOWDEN ASHFORD,<br><i>Inspector of Buildings.</i>                            |
|  | { A. M. LAWSON,<br><i>Inspector of Elevators.</i>                               |
| REPAIRS TO BUILDINGS .....               | G. B. COLEMAN,<br><i>Superintendent of Repairs.</i>                             |

**REPORT OF ASSISTANT IN CHARGE.**

OFFICE OF THE ENGINEER COMMISSIONER,  
DISTRICT OF COLUMBIA,  
*Washington, October 21, 1903.*

MAJOR: I have the honor to forward herewith the reports of the divisions of the engineer department under my charge for the year ending June 30, 1903, as submitted by the superintendent of the water department, the water registrar, the superintendent of sewers, the inspector of plumbing, the inspector of buildings, and the superintendent of repairs.

Very respectfully, your obedient servant,

CHESTER HARDING,  
*Captain, Corps of Engineers, Assistant to Engineer Commissioner.*

Maj. JOHN BIDDLE,  
*Corps of Engineers, Engineer Commissioner.*

**REPORT OF THE SUPERINTENDENT OF THE WATER DEPARTMENT.**

WASHINGTON, D. C., *August 28, 1903.*

SIR: I have the honor to submit the following report of work done by the distribution branch of the water department during the fiscal year ending June 30, 1903.

The routine work of main extension, fire hydrant erection, etc., is fully set forth in the accompanying tables, to which reference is made for details of cost, etc.

The total length of mains laid during the year is 61,841 linear feet. Thirty fire hydrants were set, making a total number available for use of 2,144.

**PUMPING STATIONS.**

*U street.*—No changes of importance were made in the equipment during the year. Following are items of chief interest from station records:

|                                   |                   |              |
|-----------------------------------|-------------------|--------------|
| Water pumped during year:         |                   |              |
| Middle service .....              | million gallons.. | 2, 867       |
| High service.....                 | do.....           | 106          |
| Total.....                        | do.....           | 2, 973       |
| Water pumped per day during year: |                   |              |
| Middle service.....               | gallons..         | 7, 855, 753  |
| High service.....                 | do.....           | 292, 674     |
| Total.....                        | do.....           | 8, 148, 427  |
| Coal burned during year.....      | pounds..          | 5, 802, 251  |
| Coal burned per day, mean.....    | do.....           | 15, 896      |
| Cost of coal per year.....        |                   | \$9, 040. 00 |
| Cost of coal per day, mean.....   |                   | \$24. 76     |





*Large trunk mains.*—Of the large trunk mains forming a part of the new distribution system, the following were practically completed during the year: Thirty-six-inch from Fourth and K streets NW. to Fourth and B streets NE., via R street, Florida avenue, and Fourth street east (first high service); 36-inch from Thirteenth street and Florida avenue to Trumbull street station, via Florida avenue, Grant street, Brightwood avenue, and Trumbull street (second high service).

Three 48-inch lines from Washington reservoir to Trumbull street station (gravity) and one 48-inch line from Second and U streets NW. south on Second street to Florida avenue (first high service).

*Miscellaneous.*—The work of indexing all water valves in the city has been continued without intermission, and it is hoped that the work may be practically completed during the next fiscal year.

Specifications have been drawn and bids asked for 300 high-pressure fire hydrants, award to be made after competitive tests.

A large amount of miscellaneous repair work has been done, chiefly to fire hydrants and street mains. Much trouble with the latter is caused by defective pipes laid many years ago.

In conclusion I wish to record my appreciation of the active interest shown by the employees of this department in the execution of their work, and of the excellent results obtained.

Very respectfully,

W. A. McFARLAND,  
*Superintendent Water Department.*

Maj. JOHN BIDDLE,  
*Corps of Engineers, U. S. Army,*  
*Engineer Commissioner, District of Columbia.*  
(Through Captain Harding.)

TABLE I.—*Mains laid and miscellaneous work during the fiscal year ending June 30, 1903.*

|                               |                     |
|-------------------------------|---------------------|
| New mains laid:               |                     |
| 48 inches diameter .....      | linear feet.. 2,123 |
| 36 inches diameter .....      | do.... 14,601       |
| 20 inches diameter .....      | do.... 35           |
| 12 inches diameter .....      | do.... 10,163       |
| 6 inches diameter .....       | do.... 37,271       |
| 4 inches diameter .....       | do.... 2,545        |
| 3 inches diameter .....       | do.... 650          |
| 1½ inches diameter .....      | do.... 1,045        |
| Mains lowered .....           | do.... 432          |
| New stop valves .....         | 137                 |
| Fire hydrants erected .....   | 30                  |
| Public hydrants erected ..... | 7                   |
| Horse fountains erected ..... | 5                   |

TABLE II.—*Summary of the distribution system.*

|                                      | In service<br>prior to June<br>30, 1902. | Added dur-<br>ing fiscal<br>year. | Total June<br>30, 1903. |
|--------------------------------------|--|-----------------------------------|-------------------------|
| 75 inches diameter.....linear feet.. | 600                                      |                                   | 600                     |
| 48 inches diameter.....do....        | 30,000                                   | 2,123                             | 32,123                  |
| 36 inches diameter.....do....        | 34,082                                   | 14,601                            | 48,683                  |
| 30 inches diameter.....do....        | 38,947                                   |                                   | 38,947                  |
| 24 inches diameter.....do....        | 21,545                                   |                                   | 21,545                  |
| 20 inches diameter.....do....        | 36,569                                   | 35                                | 36,604                  |
| 16 inches diameter.....do....        | 2,508                                    |                                   | 2,508                   |
| 12 inches diameter.....do....        | 214,987                                  | 10,163                            | <sup>a</sup> 225,150    |
| 10 inches diameter.....do....        | 10,255                                   |                                   | 10,255                  |
| Total trunk mains.....               | 389,493                                  | 26,922                            | 416,415                 |
| 8 inches diameter.....linear feet..  | 6,005                                    |                                   | 6,005                   |
| 6 inches diameter.....do....         | 1,469,064                                | 37,271                            | <sup>b</sup> 1,506,335  |
| 4 inches diameter.....do....         | 133,296                                  | 2,545                             | 135,841                 |
| 3 inches diameter.....do....         | 63,067                                   | 650                               | 63,717                  |
| 2½ inches diameter.....do....        | 242                                      |                                   | 242                     |
| 2 inches diameter.....do....         | 4,118                                    |                                   | 4,118                   |
| 1½ inches diameter.....do....        | 3,802                                    |                                   | 3,802                   |
| 1¼ inches diameter.....do....        |  | 1,045                             | 1,045                   |
| Grand total.....                     | 2,069,087                                | 68,433                            | 2,137,520               |
| Stop valves .....                    | 4,366                                    | 137                               | 4,503                   |
| Fire hydrants.....                   | 2,114                                    | 30                                | 2,144                   |
| Public hydrants .....                | 329                                      | 7                                 | 336                     |
| Service connections .....            | 47,990                                   | 1,453                             | 49,443                  |
| Horse fountains .....                | 96                                       | 5                                 | 101                     |

<sup>a</sup>764 feet of 12-inch main abandoned.  
<sup>b</sup>1,575 feet of 6-inch main abandoned.

<sup>c</sup>8 public hydrants abandoned.





TABLE III.—Statement showing costs of water mains laid during the fiscal year ending June 30, 1903—Continued.

| Location.  | Size.         | Length.                 | Cost of labor   | Cost of material. | Total cost.     |
|--|---------------|-------------------------|-----------------|-------------------|-----------------|
| East side Twenty-fourth street NW., between B and Bancroft streets.....  | Inches. 6     | Lin. ft. 204.3          | \$58.24         | \$93.99           | \$152.23        |
| Center Blair road, Takoma Park, south from Washburn street.....  | 6             | 267                     | 65.68           | 132.21            | 197.89          |
| Center Twelfth street NE., between Dover and Frankfort streets.....  | 6             | 354.6                   | 95.75           | 151.47            | 247.22          |
| East side Fourteenth street NE., between Emporia and Frankfort streets, and on Frankfort street east from Fourteenth street.....   | 6             | 557.6                   | 77.75           | 298.46            | 376.21          |
| North side N street NW., between Twenty-second and Twenty-third streets.....   | 6             | 303.2                   | 83.00           | 133.81            | 216.81          |
| Connections and blow-offs in various sections.....   | 6<br>8        | 123<br>115              | 158.60<br>14.50 | 327.22<br>26.24   | 485.82<br>40.74 |
| Center Tenth street NE., between B and East Capitol streets; east side Sixth street NE., between B and East Capitol streets; east side Second street NE., between B and East Capitol streets.....  | 12            | 2,654.6                 | 1,127.44        | 4,243.56          | 5,371.02        |
| West side Twenty-fourth street NW., between Pennsylvania avenue and M street.....  | 12<br>6       | 888.4<br>61.0           | 473.75          | 1,515.25          | 1,989.00        |
| West side Bladensburg road NE., from butterine factory to Twenty-eighth street.....  | 12            | 1,080.3                 | 372.06          | 1,152.07          | 1,524.13        |
| West side Bladensburg road NE., from Standard Butterine property to Twenty-eighth street; center Twenty-eighth street, from Bladensburg road to Baltimore and Ohio R. R. crossing at Vista street; on Vista street from Baltimore and Ohio R. R. to South Dakota avenue; on south side South Dakota avenue to Rhode Island avenue..... | 6<br>12       | 118.8<br>4,287.7        | 1,936.25        | 6,363.76          | 8,300.01        |
| Bladensburg road NE., between H street and Mount Olivet road.....  | 12            | 600                     | 457.00          | .....             | 457.00          |
| South from U street NW, in Le Droit avenue, to Florida avenue; on Florida avenue to Fourth street NW. a.....   | 48            | 2,123.8                 | 9,093.32        | .....             | 9,093.32        |
| North from B street NE., in Fourth street, to Florida avenue, and in Florida avenue from Fourth street east to R street west a.....  | 6<br>20<br>36 | 1,251<br>35<br>14,601.4 | 31,728.42       | 11,660.98         | 43,389.85       |
| Total cost for laying mains and connections, including repairs to pavements.....   | .....         | .....                   | 54,771.89       | 43,727.52         | 98,498.90       |
| Water mains commenced but not completed, June 30, 1903.....  | .....         | .....                   | 27.75           | 805.43            | 833.18          |
| Cost of erecting fire hydrants, including repairs to pavements.....  | .....         | .....                   | 322.57          | 1,787.25          | 2,109.82        |
| Cost of superintendence.....   | .....         | .....                   | 1,538.86        | .....             | 1,538.86        |
| Grand total.....   | .....         | .....                   | 56,660.56       | 45,820.20         | 102,480.76      |

a Not completed June 30, 1903.

TABLE IV.—Statement of length and cost of water mains laid from July 1, 1878, to June 30, 1903.

# 46      OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

TABLE IV.—Statement of length and cost of water mains laid from July 1, 1878, to June 30, 1903—Continued.

TABLE V.—Average cost per foot for laying mains of various sizes, excluding repairs to improved pavements, during the fiscal year ending June 30, 1903.

| Size.        | Linear feet. | Cost of labor. | Cost of material. | Total cost. |
|--------------|--------------|----------------|-------------------|-------------|
| 1½-inch..... | 1,045        | \$0.142        | \$0.069           | \$0.211     |
| 2-inch.....  | 221          | .313           | .295              | .608        |
| 4-inch.....  | 2,004        | .275           | .410              | .685        |
| 6-inch.....  | 30,712       | .275           | .537              | .812        |
| 12-inch..... | 8,990        | .434           | 1.290             | 1.724       |

TABLE VI.—Statement of length and cost of water mains laid for the extension of the high-service system of water distribution from July 1, 1893, to June 30, 1903.

| Size of main. | Laid to June 30, 1902. | Laid during year ending June 30, 1903. | Total. |
|---------------|------------------------|--|--------|
| 1½-inch.....  |                        | 1,045                                  | 1.06   |
| 2-inch.....   | 2,717                  |  | 2.71   |
| 3-inch.....   | 1,096                  |  | 1.06   |
| 4-inch.....   | 1,808                  | 115                                    | 1.92   |
| 6-inch.....   | 5,701                  | 1,321                                  | 7.02   |
| 12-inch.....  | 188,477                | 25,960                                 | 214.43 |
| 16-inch.....  | 98,035                 | 8,523                                  | 106.56 |
| 20-inch.....  | 48                     |  | .48    |
| 24-inch.....  | 14,732                 | 35                                     | 14.77  |
| 30-inch.....  | 6,946                  |  | 6.96   |
| 36-inch.....  | 1,227                  |  | 1.27   |
| 48-inch.....  | 10,902                 | 14,601                                 | 25.50  |
|               |                        | 2,123                                  | 2.13   |
| Total.....    | 331,688                | 53,713                                 | 385.47 |

Total cost to June 30, 1902.....\$431,382.19  
Total cost for fiscal year ending June 30, 1903.....89,474.36  
Aggregate cost to June 30, 1903.....\$520,856.55

TABLE VII.—*Daily average water consumption, middle and high services.*

| Month.         | Middle.   | High.   | Month.        | Middle.   | High.   |
|----------------|-----------|---------|---------------|-----------|---------|
| 1902.          |           |         | 1903.         |           |         |
| July.....      | 8,560,258 | 309,073 | January.....  | 8,416,952 | 299,922 |
| August.....    | 7,905,647 | 303,136 | February..... | 7,790,271 | 293,985 |
| September..... | 7,850,731 | 299,875 | March.....    | 7,243,602 | 275,520 |
| October.....   | 8,194,162 | 285,077 | April.....    | 7,156,314 | 278,500 |
| November.....  | 7,792,561 | 236,140 | May.....      | 7,839,880 | 393,640 |
| December.....  | 8,135,820 | 264,782 | June.....     | 7,635,854 | 285,075 |

TABLE VIII.—*Statement of the number of shallow and deep wells.*

|  | Shallow wells. | Deep wells. | Total. |
|--|----------------|-------------|--------|
| In service June 30, 1902.....  | 62             | 40          | 102    |
| Closed and discontinued during fiscal year ending June 30, 1903..... | 0              | 0           | 0      |
| In service June 30, 1903.....  | 62             | 40          | 102    |

*Statement showing in detail the number of persons other than day laborers who were employed on regular and continuous work for thirty days or more during the fiscal year ended June 30, 1903, under authority of and paid from general appropriations.*

| Title of appropriation, and rating.                | Per diem. | Total.     |
|--|-----------|------------|
| <i>Paid from appropriations, water department.</i> |           |            |
| 1 assistant engineer.....                          | \$6.00    | \$1,876.00 |
| 1 superintendent of construction.....              | 6.00      | 1,876.00   |
| 1 clerk.....                                       | 5.00      | 1,512.00   |
| Do.....  | 4.50      | 468.00     |
| Do.....  | 4.00      | 1,200.00   |
| 6 inspectors.....                                  | 4.50      | 5,427.00   |
| 2 inspectors.....                                  | 4.00      | 1,193.00   |
| 1 assistant engineer.....                          | 4.50      | 1,294.50   |
| 1 chief steam engineer.....                        | 4.50      | 1,402.85   |
| 1 leveler.....                                     | 4.00      | 1,225.50   |
| 1 draftsman.....                                   | 3.50      | 1,016.50   |
| 1 assistant draftsman.....                         | 2.75      | 736.12     |
| 1 rodman.....                                      | 3.00      | 780.00     |
| Do.....  | 2.60      | 665.70     |
| 1 chainman.....                                    | 2.25      | 194.75     |
| 1 assistant machinist.....                         | 3.50      | 1,083.26   |
| Do.....  | 3.00      | 138.75     |
| 2 plumbers.....                                    | 3.50      | 2,075.50   |
| 1 plumber.....                                     | 3.00      | 732.00     |
| 1 assistant foreman.....                           | 3.75      | 641.69     |
| 2 assistant foremen.....                           | 3.50      | 2,251.26   |
| 1 assistant foreman.....                           | 3.00      | 895.50     |
| 1 carpenter.....                                   | 3.50      | 1,007.57   |
| 1 blacksmith.....                                  | 3.50      | 1,003.43   |
| 1 storekeeper.....                                 | 3.00      | 956.25     |
| 1 assistant storekeeper.....                       | 2.50      | 807.50     |
| 3 assistant foremen.....                           | 2.50      | 617.00     |
| 2 assistant steam engineers.....                   | 3.00      | 576.75     |
| 3 assistant steam engineers.....                   | 2.50      | 2,387.50   |
| 3 firemen.....                                     | 2.50      | 2,608.13   |
| Do.....  | 2.00      | 2,142.00   |
| 1 watchman.....                                    | 2.50      | 903.75     |
| 4 watchmen.....                                    | 1.75      | 2,545.75   |
| 4 oilers.....                                      | 1.75      | 2,349.17   |
| 2 messengers.....                                  | 1.75      | 1,063.99   |
| 2 drivers.....                                     | 1.75      | 948.94     |
| Total.....   |           | 48,603.81  |







*Statement showing in detail the number of persons, other than day laborers, who were employed on regular and continuous work during the fiscal year ended June 30, 1903, under authority of and paid from general appropriations.*

| Title of appropriation and rating.               | Per diem. | Total.   |
|--|-----------|----------|
| Extension of the high service, water department: |           |          |
| 1 inspector .....                                | \$3.00    | \$337.50 |
| 13 inspectors .....                              | 2.50      | 7,117.50 |
| 1 assistant tapper .....                         | 2.50      | 416.50   |
| Do .....   | 2.75      | 390.12   |
| Total.....                                       |           | 8,911.62 |

REPORT OF THE SUPERINTENDENT OF SEWERS.

WASHINGTON, October 3, 1903.

SIR: I have the honor to submit the following report of the operations of the sewer division for the fiscal year ending June 30, 1903.  
Under the appropriation for cleaning and repairing sewers and basins, the following described work was performed:

*Sewers and appurtenances cleaned and repaired.*

|  |        |         |
|--|--------|---------|
| Cleaned:   |        |         |
| Pipe sewers .....                                    |        | 127,918 |
| Main sewers .....                                    |        | 21,046  |
| Manholes .....                                       |        | 321     |
| Catch basins .....                                   |        | 102,788 |
| Gravel basins .....                                  |        | 19      |
| Basin outlets .....                                  |        | 25      |
| Street detritus and sludge removed.....cubic yards.. |        | 9,121   |
| Sumps.....   |        | 29      |
| Repaired:  |        |         |
| Invert repaired .....                                | feet.. | 473     |
| Pipe sewers taken up and relaid.....                 | do..   | 936     |
| Basins constructed.....                              |        | 4       |
| Basins reconstructed.....                            |        | 23      |
| Basins repaired .....                                |        | 128     |
| Basin tops replaced (artificial and bluestone) ..... |        | 93      |
| Covers (cast iron) replaced .....                    |        | 230     |
| Basins abandoned .....                               |        | 4       |
| Manholes constructed .....                           |        | 8       |
| Manholes reconstructed .....                         |        | 2       |
| Manholes adjusted .....                              |        | 10      |
| Manholes repaired .....                              |        | 38      |
| Manholes abandoned .....                             |        | 4       |
| Alley grates and frames placed .....                 |        | 25      |
| Manhole frames replaced .....                        |        | 147     |
| Siphon .....   |        | 1       |
| Bulkheads constructed.....                           |        | 6       |
| Total number of jobs of all kinds performed.....     |        | 1,431   |

A section (473 linear feet) of invert was repaired under contract with Warren F. Brenizer Company in the North Capitol street sewer between I street and K street. The outlets of Anacostia main sewers were cleaned. The flushing gate at the outlet of the Tiber sewer was operated throughout the year.

|   |             |
|---|-------------|
| Amount expended for cleaning catch basins.....      | \$13,217.81 |
| Amount expended for manual flushing of sewers ..... | 3,996.52    |

The tidal sewers and sediment chambers were cleaned as required. Two flushing gangs were employed through the year, flushing pipe sewers, and also two gangs cleaning catch basins.

MAIN AND PIPE SEWERS.

Sewers were constructed, under contracts, in Thirteenth street SW., between B street and Potomac River; in S street NW., between Eighteenth and Nineteenth

streets; in Fourteenth street SW., between Maryland avenue and D street; in D street SW., between Fourteenth and Fifteenth streets; and in Fifteenth street SW., between D and C streets.

There were constructed, by day labor, 6,380 linear feet pipe sewers, varying in size from 8 to 24 inches in diameter (42 manholes), divided among 41 jobs, the average length per job being 153.17 linear feet, the average cost per job being \$399.69.

There were also constructed 81 catch basins, 2,528 linear feet connections, varying in size from 8 to 18 inches in diameter (10 manholes), divided among 60 jobs, the average length of connection per job being 42.1 linear feet, the average cost per basin job being \$131.54.

#### SUBURBAN SEWERS.

Sewers were constructed, under contracts, in Fifth street NW., between Morris and Sumner streets; in Morris street NW., between Fifth street and alley; and in alley between Morris and Hancock streets; through the grounds of Westminster College; in Hartford street NE., between Ninth and Thirteenth streets; in Cathedral avenue NW., between Connecticut avenue and Woodley road.

There were constructed, by day labor, 10,232 linear feet pipe sewers, varying in size from 8 to 24 inches in diameter (49 manholes), divided among 44 jobs, the average length per job being 232.55 linear feet, the average cost per job being \$486.09+.

#### ASSESSMENT AND PERMIT WORK.

*Permit work.*—There were constructed, by day labor, 4,614 linear feet pipe sewers, varying in size from 8 to 24 inches in diameter (21 manholes), divided among 41 jobs; the average length per job being 112.54 linear feet, the average cost per job being \$193.063, the average cost per foot being \$1.715.

*Assessment.*—Sewers were constructed, under contracts, in Galena street NE., between Sixth and Seventh streets, and in Jefferson street SE. from a point 620 feet east of Taylor street.

There were constructed, by day labor, 20,313 linear feet pipe sewers, varying in size from 8 to 12 inches in diameter (86 manholes), divided among 71 jobs, the average length per job being 286.1 linear feet, the average cost per job being \$457.89, the average cost per foot being \$1.60+. Five catch basins were constructed, 3 catch basins were reconstructed, 36 linear feet pipe connections were constructed, divided among 8 jobs, the average length of connection per job being 4.5 linear feet, the average cost per basin job being \$53.981.

#### AUTOMATIC FLUSHING TANKS.

Seven flushing basins were constructed in various locations.

#### MAIN THROUGH THE LANDS OF W. D. DAVIDGE AND TRINITY COLLEGE.

The sewer through the lands of W. D. Davidge and Trinity College was completed, under contract, by M. F. Talty.

#### SEWAGE PUMPING STATION.

The work on Second street SE., between N street and Anacostia River, under contract No. 2893, with Andrew Gleeson, was completed.

The work under contract No. 3186, with Ambrose B. Stannard, is in progress.

The work under contract No. 3061, with W. F. Brenizer, is in progress.

#### UNUSED BALANCES.

The sewer connections in square No. 631 and at First street and Indiana avenue NW. with the Tiber Creek sewer were made by Andrew Gleeson under contract No. 2893.

#### LOW-AREA TRUNK SEWER.

A section of the low-area trunk sewer was completed by E. G. Gummel under contract No. 3037.

Work was in progress on the section awarded to the Warren F. Brenizer Company under contract No. 3182.

#### BOUNDARY SEWER.

Work was in progress on the extension of the Boundary sewer by Arthur Cowsill under contract No. 3068.



expended instead of lapsing with the fiscal year. There is no apparent advantage in the present arrangement and many disadvantages. I also suggest that an effort be made to raise the limit of expenditure permissible by day labor from \$1,000 to \$3,000. This is especially desirable for emergency and repair work.

The requirement of the organic act that a bond not less than the amount of the contract shall be required from all contractors, running five years from the date of completion of the work, and that 10 per cent of the cost of all new work be retained as an additional guaranty, increases the cost of the work performed and is out of proportion to benefit derived by the District, except possibly for asphalt and other permanent work. I suggest that for sewer work the amount of the bond should not be more than 50 per cent of the cost of the work, and there is no advantage in making the time limit more than one year from the date of completion of the work. It is recommended that legislation be secured which will accomplish the change suggested.

Very respectfully, your obedient servant,

D. E. McComb,  
*Superintendent of Sewers.*

Maj. JOHN BIDDLE,  
*Corps of Engineers, U. S. Army,*  
*Engineer Commissioner, District of Columbia.*  
(Through Captain Harding.)

TABLE 1.—Statement of sewers constructed under contracts

| No. of contract. | Contractor.                | Location.   | Size of sewer.                                      | Length of sewer. |
|------------------|----------------------------|---|---|------------------|
|                  |                            |   |   | <i>Feet.</i>     |
|                  |                            |   | Tide gate chambers ....                             | 103.66           |
|                  |                            |   | 12 feet by 10 feet 6 inches twin sewers.            | 471.29           |
|                  |                            |   | 24-foot transition section.                         | 50               |
|                  |                            |   | 14 feet by 14 feet 3 inches sewer.                  | 55               |
|                  |                            |   | 3 feet by 5 feet oval suction conduit. <sup>a</sup> | 474.52           |
| 2893             | Andrew Gleeson....         | Second street SE, between N street and Anacostia River.   | 4-foot D sewer .....                                | 103.15           |
|                  |                            |   | 6 feet 3 inches transition section.                 | 8                |
|                  |                            |   | 6 feet 3 inches D sewer.                            | 68               |
|                  |                            |   | Junction section.....                               | 16               |
|                  |                            |   | 5-foot transition section.                          | 8                |
|                  |                            |   | 4 feet by 5 feet 6 inches section.                  | 8                |
| 2893             | .....do .....              | Section B, Tiber Creek (square 631).  | 14 feet by 14 feet 3 inches.                        | 48               |
| 2893             | .....do .....              | Section C, Tiber Creek, First street and Indiana avenue.  | Junction section.....                               | 32.6             |
|                  |                            |   | 9 by 11 feet .....                                  | 37               |
| 3065             | The Warren F. Brenizer Co. | North Capitol street between I and K streets.   | 8-foot span.....                                    | 473              |
| 2965             | John Jacoby.....           | Through lands of W. D. Davidge and Trinity College.   | 5 feet 9 inches sewer....                           | 362              |
|                  |                            |   | 5 feet 9 inches invert ...                          | 229              |
|                  |                            |   | 6-foot sewer.....                                   | 735              |
|                  |                            |   | 6-foot invert.....                                  | 40               |
|                  |                            |   | 6-foot diameter arch....                            | 40               |
|                  |                            |   | 5 feet 9 inches diameter sewer.                     | 716              |
| 3063             | M. F. Talty.....           | .....do .....   | 5 feet 6 inches diameter.                           | 823.2            |
|                  |                            |   | 6 feet 9 inches arch .....                          | 229              |
| 3037             | E. G. Gummel.....          | New Jersey avenue and N street SE. to New Jersey avenue and First street.                                       | 3 feet 6 inches .....                               | 2,988.88         |
| 3068             | Arthur Cowsill .....       | Boundary sewer.....   | 22 by 23 feet 6 inches ...                          | 987              |
| 3061             | W. F. Brenizer .....       | Near foot of New Jersey avenue SE..   |   |                  |
| 3062             | Andrew Gleeson ...         | East side intercepting sewer .....  | 6 feet diameter .....                               | 3,600            |
|                  |                            |   | 3 feet 4½ inches diameter                           | 129.3            |
|                  |                            |   | Transition.....                                     | 8.2              |
| 3170             | M. F. Talty.....           | Thirteenth street SW., between B street and Potomac River.  | 2.75 by 4.125 .....                                 | 791.7            |
|                  |                            |   | 24 inches .....                                     | 424.1            |
|                  |                            |   | 21 inches .....                                     | 512.2            |
|                  |                            |   | 2 by 3 feet .....                                   | 453.5            |
| 3171             | The Warren F. Brenizer Co. | S street, between Eighteenth and Nineteenth streets NW.   | 24 inches .....                                     | 550.9            |
|                  |                            | Fourteenth street SW., between Maryland avenue and D street.  | .....do .....                                       | 416.5            |
| 3189             | M. F. Talty.....           | D street, between Fourteenth and Fifteenth streets.   | 18 inches .....                                     | 424.1            |
|                  |                            | Fifteenth street, between D and C streets SW.   |   |                  |
|                  |                            | Fifth NW., between Morris and Sumner; Morris, between Fifth and alley, and in alley between Morris and Hancock. | 21 inches .....                                     | 331.4            |
| 3168             | Coyle & Co .....           |   | 24 inches .....                                     | 413.7            |
| 3170             | M. F. Talty.....           | Through grounds of Westminster College.   | 3 feet 6 inches.....                                | 363              |
| 3171             | The Warren F. Brenizer Co. | Hartford street NE., between Ninth and Thirteenth streets.  | 24 inches .....                                     | 374              |
|                  |                            |   | 21 inches .....                                     | 521.4            |
| 3189             | M. F. Talty.....           | Cathedral avenue, between Connecticut avenue and Woodley road.  | 24 inches .....                                     | 1,119.4          |
|                  |                            |   | 18 inches .....                                     | 3                |
| 3182             | The Warren F. Brenizer Co. | New Jersey avenue and First street to Pennsylvania avenue and John Marshall place.                              | 3 feet 6 inches .....                               | 529              |
| 3186             | Ambrose B. Standard.       | Sewerage pumping station.....   |   |                  |
|                  |                            |   | Junction section.....                               | 40               |
| 3165             | B. J. Sullivan .....       | New Jersey avenue SE., between I and N streets.   | 10 feet 6 inches by 9 feet.                         | 16               |
|                  |                            |   | 16 by 18 feet .....                                 | 909.85           |
|                  |                            |   | 15 by 17 feet .....                                 | 190.65           |
| 3168             | Coyle & Co .....           | Through grounds of Georgetown College.  | 6 feet .....  | 2,601.8          |

<sup>a</sup> Includes screen and pump wells.  
<sup>b</sup> Includes \$35 deducted on account of quality of bronze hinges.  
<sup>c</sup> Includes work previously reported upon.  
<sup>d</sup> Includes \$2,246.27 for material, \$105.27 for repairs to gas mains in Lincoln avenue, \$140.64 for watchman and oil used in watching line during suspension of work, \$1,149.70 paid M. F. Talty for repairs, and \$687.75 paid M. F. Talty for work under contract No. 3063, being in excess of prices in John Jacoby's contract No. 2965.

chargeable to appropriations fiscal years 1902 and 1903.

| Allowance<br>to con-<br>tractor. | Materials.       |                 | Cost of<br>inspec-<br>tion. | Cost of re-<br>pairs to<br>pave-<br>ments. | Total cost. | Appropriation.   |
|----------------------------------|------------------|-----------------|-----------------------------|--|-------------|--|
|                                  | Charge-<br>able. | Not<br>charged. |                             |  |             |  |
| \$68,943.66                      | \$18,501.37      | \$853.09        | \$64.00                     | \$318.43                                   | \$88,680.55 | Sewerage pumping plant, 1901.  |
| 6,968.02                         | 1,338.78         | 5.63            | 266.00                      | .....                                      | 8,578.43    | { Sewerage disposal system, unex-<br>pended balances.<br>Do.           |
| 1,486.07                         | 295.11           | .....           | 80.50                       | .....                                      | 1,861.68    |  |
| 4,882.57                         | 1,232.44         | 34.20           | 264.00                      | .....                                      | 6,413.21    | Cleaning and repairing sewers and<br>basins, 1902.                     |
| 5,293.06                         | d 4,329.63       | 145.77          | .....                       | .....                                      | e 9,768.46  | { Main through lands of W. D.<br>Davidge and Trinity College,<br>1902. |
| 10,401.75                        | 2,665.71         | 156.49          | 284.00                      | .....                                      | e 13,507.95 | Do.  |
| 42,008.83                        | e 4,279.35       | 177.07          | 1,118.75                    | .....                                      | e 47,584.00 | Low area trunk sewer, 1902.  |
| 38,908.72                        | 6,520.40         | .....           | 1,217.00                    | .....                                      | f 46,646.12 | Extension boundary sewer, 1902.  |
| 18,803.50                        | 1,716.75         | .....           | 1,100.00                    | .....                                      | f 21,620.25 | Sewerage pumping station, 1902.  |
| 52,118.49                        | 9,385.80         | .....           | 3,051.50                    | .....                                      | f 64,555.79 | East side to Twelfth street, 1902.                                     |
| 8,554.69                         | 1,800.41         | 695.53          | 533.50                      | 374.43                                     | 11,958.56   | Main and pipe sewers, 1903.  |
| 1,383.99                         | 600.42           | 6.16            | 168.00                      | 167.63                                     | 2,326.20    | Do.  |
| 2,858.61                         | 385.00           | 961.76          | 184.00                      | 112.20                                     | 4,501.57    | Do.  |
| 2,471.99                         | 386.80           | 1,353.50        | 116.00                      | .....                                      | 4,328.29    | Suburban sewers, 1903.   |
| 1,144.73                         | 585.10           | 3.78            | 293.50                      | .....                                      | 2,027.11    | Do.  |
| 2,238.84                         | g 324.45         | 738.43          | 180.00                      | 25.20                                      | 3,506.92    | Do.  |
| 3,313.01                         | 333.90           | 905.69          | 204.00                      | .....                                      | 4,756.60    | Do.  |
| 13,489.50                        | 1,893.00         | .....           | 607.00                      | .....                                      | f 15,989.50 | Low-area trunk sewer, 1903   |
| 13,830.00                        | .....            | .....           | 32.00                       | .....                                      | f 13,862.00 | Sewerage pumping station, 1903.  |
| 63,056.40                        | 14,558.60        | .....           | 1,139.00                    | .....                                      | f 78,754.00 | B street and New Jersey avenue<br>trunk sewer (section A), 1903-4.     |
| 18,797.15                        | 7,487.80         | .....           | 820.00                      | .....                                      | f 27,104.95 | Georgetown trunk sewer.  |

e Includes \$4 for moving gas lamp at northwest corner Second and M SE.; \$4 for moving gas lamp at northeast corner Second and L streets SE., and \$4 for moving two naphtha lamps on Second between L and M SE.  
f Work incomplete; payment made on account.  
g Includes \$24, cost of cleaning sewer.

56      OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

TABLE 2.—*Statement of sewers laid under the appropriation for assessment*  
VOLUNTARY

1904

1905

1906

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<sup>a</sup> Amount carried forward to fiscal year 1904.  
<sup>b</sup> Work completed in fiscal year 1904.  
<sup>c</sup> \$138.68 of this amount charged to appropriation for main and pipe sewers, 1903.  
<sup>d</sup> Awaiting bill for repairs to pavements.



and permit work and whole cost to applicant for fiscal year 1903.

SYSTEM.

| Amount of deposit. | Cost to District of Columbia. | Cost to applicant. | Total cost. | Amount returned. | For whom done.                               | Overseer.    | Date of completion. |
|--------------------|-------------------------------|--------------------|-------------|------------------|--|--------------|---------------------|
| \$50.00            | \$49.05                       | \$49.05            | \$98.10     | \$0.95           | J. M. Burns.....                             | Lanigan..    | June 18, 1903       |
| 27.00              | 17.81                         | 17.81              | 35.62       | a 9.19           | John A. Massie.....                          | Ward.....    | (b)                 |
| 15.00              | 14.63                         | 14.63              | 29.26       | .37              | Chas. F. Buscher.....                        | .....do..... | June 22, 1903       |
| 70.00              | c 162.09                      | 23.51              | 185.60      | 46.49            | Spelden & Spelden.....                       | .....do..... | Aug. 11, 1902       |
| 60.00              | 53.59                         | 53.59              | 107.18      | .....            | Directors Providence Hospital.               | Lanigan..    | (d)                 |
| 75.00              | 61.73                         | 61.73              | 123.46      | 13.27            | Chas. N. Moore.....                          | .....do..... | Mar. 23, 1903       |
| 196.00             | 170.40                        | 170.40             | 340.80      | .....            | Geo. S. Cooper.....                          | Prince....   | (d)                 |
| 96.00              | 77.36                         | 77.36              | 154.72      | 18.64            | F. A. Blundon and W. C. Freeman.             | Lanigan..    | July 23, 1902       |
| 40.00              | 27.09                         | 27.09              | 54.18       | 12.91            | F. A. Blundon.....                           | Thomas ..    | Nov. 4, 1902        |
| 13.00              | 11.97                         | 11.97              | 23.94       | 1.03             | Chas. W. King.....                           | Lanigan..    | Dec. 2, 1902        |
| 108.50             | 103.39                        | 103.39             | 206.78      | 5.11             | Claude N. Bennett.....                       | Ward.....    | Apr. 6, 1903        |
| 287.00             | 263.88                        | 263.89             | 527.77      | 23.11            | Harry Wardman.....                           | Thomas ..    | Mar. 16, 1903       |
| 500.00             | 432.00                        | 432.01             | 864.01      | 67.99            | The Virginia Hotel Co...                     | Prince....   | Jan. 12, 1903       |
| 16.00              | 11.76                         | 11.77              | 23.53       | 4.23             | H. L. Turner.....                            | Ward.....    | May 12, 1903        |
| 7.50               | 6.65                          | 6.66               | 13.31       | .84              | John McLaughlin.....                         | .....do..... | e July 6, 1903      |
| 25.00              | 21.29                         | 21.30              | 42.59       | 8.70             | John O. Johnson.....                         | .....do..... | Apr. 20, 1903       |
| 381.00             | 322.79                        | 322.78             | 645.57      | 58.22            | L. S. Lipscomb.....                          | Prince....   | Apr. 11, 1903       |
| 240.00             | 240.00                        | 240.00             | 480.00      | .....            | David Moore.....                             | Ward.....    | Feb. 7, 1903        |
| 80.00              | 73.63                         | 73.63              | 147.26      | 6.37             | Gleeson & Humphrey....                       | Prince....   | Nov. 14, 1902       |
| 170.00             | 155.19                        | 155.19             | 310.38      | 14.81            | Appleton Clark, jr.....                      | .....do..... | May 27, 1903        |
| 15.00              | 9.45                          | 9.46               | 18.91       | 5.54             | Rev. Father Paul Griffith.                   | Lanigan..    | June 11, 1903       |
| 90.00              | 75.89                         | 75.88              | 151.77      | 14.12            | C. M. Campbell.....                          | Prince....   | Mar. 25, 1903       |
| 112.00             | 89.98                         | 89.99              | 179.97      | 22.01            | Northeast Eckington Improvement Association. | .....do..... | Mar. 26, 1903       |
| 70.00              | 46.10                         | 46.11              | 92.21       | 23.89            | L. M. Saunders.....                          | Ward.....    | Aug. 23, 1902       |
| 30.00              | 27.00                         | 27.00              | 54.00       | 3.00             | Mary L. Alexander.....                       | Lanigan..    | Aug. 7, 1902        |
| 24.00              | 15.16                         | 15.17              | 30.33       | 8.83             | Waddy B. Wood.....                           | Ward.....    | Feb. 14, 1903       |
| 63.00              | 52.98                         | 52.98              | 105.96      | 10.02            | Chas. Schneider.....                         | Lanigan..    | Nov. 29, 1902       |
| 225.00             | 214.36                        | 214.36             | 428.72      | 10.64            | Rev. Father Manley.....                      | Ward.....    | f July 6, 1903      |
| 18.00              | 13.06                         | 13.07              | 26.13       | 4.93             | Chas. W. King, jr.....                       | .....do..... | June 26, 1903       |
| 18.00              | 16.66                         | 16.66              | 33.32       | 1.34             | Cloyd Tavenner.....                          | .....do..... | Oct. 25, 1902       |
| 400.00             | 361.80                        | 361.79             | 723.59      | 38.21            | M. F. Talty.....                             | Thomas ..    | Aug. 27, 1902       |
| 22.00              | 21.01                         | 21.01              | 42.02       | .99              | J. L. Matthews.....                          | Ward.....    | Sept. 17, 1902      |
| 20.00              | 17.65                         | 17.65              | 35.30       | 2.35             | Wm. Henry Dennis.....                        | Prince....   | Apr. 2, 1903        |
| 355.00             | 342.73                        | 342.74             | 685.47      | 12.26            | W. E. Wright.....                            | Thomas ..    | May 8, 1903         |
| 18.00              | 13.66                         | 13.66              | 27.32       | 4.34             | Wm. R. Shelton.....                          | .....do..... | Apr. 25, 1903       |
| 120.00             | 40.18                         | 40.17              | 80.35       | a 79.83          | Geo. S. Cooper.....                          | Prince....   | (b)                 |
| 110.00             | 105.25                        | 105.25             | 210.50      | 4.75             | F. S. Collins.....                           | Ward.....    | June 29, 1903       |
| 12.00              | 9.58                          | 9.58               | 19.16       | 2.42             | W. H. Goines (chairman board of trustees).   | .....do..... | e Aug. 6, 1903      |
| 170.00             | 152.01                        | 152.01             | 304.02      | 17.99            | Geo. C. Johnson.....                         | Prince....   | June 22, 1903       |
| g 39.60            | 26.81                         | 26.82              | 53.63       | 12.78            | Maj. Frank Wheaton....                       | .....do..... | July 1, 1902        |
| 122.00             | 99.43                         | 99.42              | 198.85      | 22.58            | S. E. Redfern.....                           | .....do..... | Sept. 15, 1902      |
| 4,509.60           | 4,027.05                      | 3,888.54           | 7,915.59    | 590.05           |  |              |                     |

e Repairs to pavements made in fiscal year 1904.  
f Repairs to pavements were completed in fiscal year 1904.  
g \$39.60 balance brought forward from fiscal year 1902.



mit work and whole cost to applicant for fiscal year 1903.

l.

| 1. | Basins. | Man-holes. | Branches. | Cost to District of Columbia. | Cost to property owner. | Total cost. | Overseer.           | Date of completion.        |
|----|---------|------------|-----------|-------------------------------|-------------------------|-------------|---------------------|----------------------------|
|    |         | 1          | 5         | \$303.94                      | \$303.94                | \$607.88    | Thomas ....         | Jan. 7, 1903               |
|    |         | 1          | 8         | 350.04                        | 350.04                  | 700.08      | ....do .....        | Oct. 30, 1902              |
|    |         | 2          | 18        | 288.96                        | 288.96                  | 577.92      | Prince .....        | Dec. 2, 1902               |
|    |         | 1          | 6         | 205.05                        | 205.05                  | 410.10      | Thomas ....         | July 17, 1902              |
|    |         | 1          | 5         | 188.96                        | 188.96                  | 377.91      | ....do .....        | July 22, 1902              |
|    |         | 1          | 3         | 267.18                        | 267.19                  | 534.37      | ....do .....        | Nov. 24, 1902              |
|    |         | 1          | 8         | 162.43                        | 162.44                  | 324.87      | Prince .....        | Apr. 18, 1903              |
|    |         | 1          | 1         | 404.14                        | 404.15                  | 808.29      | Ward .....          | Sept. 2, 1902              |
|    |         | 3          |           | 487.62                        | 487.62                  | 975.24      | Prince .....        | Sept. 4, 1902              |
|    |         | 1          | 8         | 371.39                        | 371.39                  | 742.78      | Thomas ....         | Sept. 5, 1902              |
|    |         | 3          | 1         | 504.68                        | 504.68                  | 1,009.36    | Ward .....          | Sept. 17, 1902             |
|    |         | 1          | 2         | 185.20                        | 185.20                  | 370.40      | Thomas and Prince.  | Sept. 13, 1902             |
|    |         | 1          | 2         | 169.67                        | 169.66                  | 339.33      | Thomas ....         | Sept. 17, 1902             |
|    |         | 2          |           | 356.25                        | 356.26                  | 712.51      | ....do .....        | Nov. 21, 1902              |
|    |         | 1          | 1         | 200.05                        | 200.05                  | 400.10      | Ward .....          | June 25, 1903              |
|    |         | 1          | 11        | 168.69                        | 168.69                  | 337.38      | Thomas ....         | June 24, 1903              |
|    |         | 1          | 7         | 91.75                         | 91.76                   | 183.51      | ....do .....        | Oct. 18, 1902              |
|    |         | 1          |           | 226.63                        | 226.62                  | 453.25      | Ward .....          | Nov. 15, 1902              |
|    |         | 1          |           | 255.53                        | 255.54                  | 511.07      | ....do .....        | Nov. 28, 1902              |
|    |         | 1          | 3         | 116.76                        | 116.76                  | 233.52      | ....do .....        | Dec. 6, 1902               |
|    |         | 1          |           | 254.15                        | 254.15                  | 508.30      | ....do .....        | Dec. 9, 1902               |
|    |         | 1          | 3         | 112.13                        | 112.13                  | 224.26      | ....do .....        | Dec. 10, 1902              |
|    |         | 1          | 5         | 260.80                        | 260.80                  | 521.60      | Prince .....        | Jan. 26, 1903              |
|    |         | 2          | 5         | 207.70                        | 207.70                  | 415.40      | Ward .....          | Jan. 27, 1903              |
|    |         | 1          | 1         | 226.73                        | 226.72                  | 453.45      | Prince .....        | Apr. 1, 1903               |
|    |         | 1          |           | 163.26                        | 163.25                  | 326.51      | ....do .....        | Sept. 3, 1902              |
|    |         | 2          | 7         | 208.17                        | 208.17                  | 416.34      | Ward .....          | Oct. 7, 1902               |
|    |         | 2          | 8         | 321.24                        | 321.24                  | 642.48      | ....do .....        | Nov. 6, 1902               |
|    |         | 2          | 15        | 220.98                        | 220.98                  | 441.96      | Prince .....        | Feb. 15, 1903              |
|    |         | 2          |           | 353.30                        | 353.31                  | 706.61      | Thomas ....         | Mar. 26, 1903              |
|    | 1       |            |           |                               |                         | 66.24       | Lanigan ....        | Mar. 25, 1903              |
|    | 1       |            |           |                               |                         | 46.06       | ....do .....        | Apr. 24, 1903              |
|    |         |            | 8         | 114.12                        | 114.13                  | 228.25      | Ward .....          | May 3, 1903                |
|    |         | 1          | 7         | 366.46                        | 366.46                  | 732.92      | ....do .....        | July 22, 1902              |
|    |         |            | 2         | 58.21                         | 58.22                   | 116.43      | Thomas ....         | July 28, 1902              |
|    |         | 1          | 17        | 303.24                        | 303.24                  | 606.48      | ....do .....        | Nov. 4, 1902               |
|    |         |            | 2         | 34.53                         | 34.54                   | 69.07       | Lanigan ....        | Feb. 14, 1903              |
|    |         | 1          | 24        | 183.32                        | 183.33                  | 366.65      | Thomas ....         | Apr. 1, 1903               |
|    |         | 2          | 5         | 285.96                        | 285.96                  | 571.92      | Ward .....          | June 24, 1903              |
|    |         | 1          | 5         | 105.91                        | 105.90                  | 211.81      | Lanigan ....        | May 2, 1903                |
|    |         | 2          | 3         | 841.26                        | 841.26                  | 1,682.52    | McLeod and Venable. | <sup>a</sup> Feb. 26, 1903 |
|    |         | 1          |           | 220.21                        | 220.22                  | 440.43      | Ward .....          | Mar. 5, 1903               |
|    |         |            | 3         | 186.25                        | 186.25                  | 372.50      | Lanigan ....        | Apr. 1, 1903               |
|    |         | 2          | 13        | 308.59                        | 308.59                  | 617.18      | Prince .....        | Sept. 22, 1902             |
|    |         | 2          | 82        | 952.99                        | 952.99                  | 1,905.98    | Beach .....         | <sup>b</sup> Apr. 21, 1903 |
|    |         | 1          | 7         | 87.84                         | 87.84                   | 175.68      | Ward .....          | Oct. 8, 1902               |
|    |         | 1          | 1         | 314.77                        | 314.77                  | 629.54      | Thomas ....         | Jan. 28, 1903              |
|    |         | 1          | 7         | 244.40                        | 244.39                  | 488.79      | ....do .....        | May 25, 1903               |
|    |         | 2          | 1         | 270.35                        | 270.36                  | 540.71      | Ward .....          | Jan. 20, 1903              |
| 1  |         |            |           |                               |                         | 52.40       | Lanigan ....        | Sept. 12, 1902             |
|    |         | 2          | 11        | 246.83                        | 246.84                  | 493.67      | Prince .....        | Nov. 20, 1902              |

<sup>b</sup> Constructed under contract No. 3191 by Andrew Gleason.

TABLE 3.—*Statement of sewers laid under the appropriation for assessment*

ASSESSMENT

| No.<br>of<br>order. | Location.   | Pipe sewers laid (length in feet). |          |           |          |
|---------------------|---|------------------------------------|----------|-----------|----------|
|                     |   | 8-inch.                            | 10-inch. | 12-inch.  | 18-inch. |
| 132                 | New Hampshire avenue, between Lydecker avenue and Spring road.        | .....                              | 255.1    | .....     | .....    |
| 144                 | Nineteenth, between California avenue and Columbia road.              | .....                              | .....    | 207.8     | .....    |
| 147                 | N street SW., between One-half and South Capitol streets.             | .....                              | .....    | 221.5     | .....    |
| 118                 | Pierrepont street, between Hubbard and Thirty-fourth NW.              | .....                              | 260      | .....     | .....    |
| 120                 | Pierce street, between Harrison and Jackson.....                      | .....                              | .....    | 105.9     | .....    |
| 158                 | Rhode Island avenue, between First and North Capitol streets NW.      | .....                              | .....    | 528       | .....    |
| 160                 | .....do.....  | .....                              | 270.5    | .....     | .....    |
| 161                 | .....do.....  | .....                              | 269      | 275       | .....    |
| 113                 | Sheridan street, between Brown and Fourteenth streets.                | .....                              | 185      | .....     | .....    |
| 127                 | Seaton street NE., between North Capitol street and Lincoln avenue.   | .....                              | .....    | 110.4     | .....    |
| 128                 | South Carolina avenue SE., between Fourteenth and Fifteenth streets.  | .....                              | .....    | 283       | .....    |
| 145                 | S street NW., between Twenty-second and Twenty-fourth streets.        | .....                              | .....    | 544       | .....    |
| 175                 | Second and N streets SE. (northeast corner).....                      | .....                              | .....    | 6         | .....    |
| 178                 | Sheridan street NW., between Fourteenth and Sixteenth streets.        | .....                              | 230      | 6         | .....    |
| 124                 | Spring street, between Maple avenue and Valley SE.                    | .....                              | 165.5    | .....     | .....    |
| 131                 | Sixteenth street from Rosedale southward .....                        | .....                              | .....    | 99.87     | .....    |
| 157                 | Sixteenth street from Kenesaw avenue southward ..                     | .....                              | .....    | 211.5     | .....    |
| 167                 | Sixteenth street, between Rosedale and Kramer .....                   | .....                              | .....    | .....     | .....    |
| 168                 | Sixth street, between K and L NE.....                                 | .....                              | .....    | 320.1     | .....    |
| 104                 | Third and G streets NW. (northwest corner).....                       | .....                              | .....    | 3         | .....    |
| 114                 | Tenth street NE., between K and L streets .....                       | .....                              | .....    | 339.5     | .....    |
| 115                 | .....do.....  | .....                              | .....    | 339.5     | .....    |
| 125                 | Square 367 .....  | .....                              | 9        | .....     | .....    |
| 135                 | Tenth street, between C and D streets NE.....                         | .....                              | .....    | 304       | .....    |
| 143                 | Thirteenth street SE., between Massachusetts avenue and East Capitol. | .....                              | .....    | 176       | .....    |
| 148                 | T street NE., between North Capitol street and Lincoln avenue.        | .....                              | 170      | .....     | .....    |
| 150                 | Tenth street NE., between D and E streets .....                       | .....                              | .....    | 235       | .....    |
| 151                 | Square 1009 .....   | .....                              | 65       | .....     | .....    |
| 174                 | Thirteenth and I streets NE. (northeast corner).....                  | .....                              | .....    | 3         | .....    |
| 177                 | Thirteenth street NW., between Roanoke and Princeton.                 | .....                              | .....    | 379       | .....    |
| Total.....          |   | 542.5                              | 5,229.03 | 14,577.47 | 645.7    |

and permit work and whole cost to applicant for fiscal year 1903—Continued.

## SYSTEM—Continued.

| Basins recon-structed. | Basins. | Man-holes. | Branches. | Cost to District of Columbia. | Cost to property owner. | Total cost. | Overseer.     | Date of completion. |
|------------------------|---------|------------|-----------|-------------------------------|-------------------------|-------------|---------------|---------------------|
|                        |         | 1          | 6         | \$164.67                      | \$164.68                | \$329.35    | Ward .....    | Nov. 8, 1902        |
|                        |         | 2          | 1         | 234.21                        | 234.21                  | 468.42      | .....do ..... | Mar. 25, 1903       |
|                        |         | 1          | 4         | 190.11                        | 190.12                  | 380.23      | Lanigan ....  | May 5, 1903         |
|                        |         | 1          | 10        | 142.54                        | 142.55                  | 285.09      | Prince .....  | Sept. 25, 1902      |
|                        |         | 1          | 4         | 84.61                         | 84.60                   | 169.21      | .....do ..... | Sept. 30, 1902      |
|                        |         | 2          | 8         | 418.04                        | 418.03                  | 836.07      | .....do ..... | Mar. 5, 1903        |
|                        |         | 1          | 14        | 171.94                        | 171.95                  | 343.89      | .....do ..... | Mar. 9, 1903        |
|                        |         | 2          | 20        | 402.16                        | 402.16                  | 804.32      | .....do ..... | Mar. 20, 1903       |
|                        |         | 1          | 7         | 109.22                        | 109.22                  | 218.44      | Ward .....    | Sept. 20, 1902      |
|                        |         | 1          | 4         | 127.99                        | 127.98                  | 255.97      | Thomas ....   | Oct. 8, 1902        |
|                        |         | 1          | 10        | 226.31                        | 226.31                  | 452.62      | Prince .....  | Oct. 31, 1902       |
|                        |         | 1          | 1         | 589.54                        | 589.55                  | 1,179.09    | Ward .....    | Jan. 3, 1903        |
| 1                      |         |            |           |                               |                         | 63.32       | Condon .....  | June 10, 1903       |
|                        |         | 2          | 28        | 232.57                        | 232.57                  | 465.14      | Ward .....    | June 27, 1903       |
|                        |         |            | 8         | 116.87                        | 116.87                  | 233.74      | Prince .....  | Oct. 3, 1902        |
|                        |         |            | 5         | 54.55                         | 54.55                   | 109.10      | .....do ..... | Nov. 1, 1902        |
|                        |         | 1          |           | 212.65                        | 212.65                  | 425.30      | Thomas ....   | Mar. 3, 1903        |
| 1                      |         |            |           |                               |                         | 46.36       | Lanigan ....  | Apr. 20, 1903       |
|                        |         | 1          | 5         | 255.34                        | 255.35                  | 510.69      | Thomas ....   | Apr. 29, 1903       |
|                        | 1       |            |           |                               |                         | 54.64       | Lanigan ....  | July 31, 1902       |
|                        |         | 2          |           | 244.06                        | 244.07                  | 488.13      | Prince .....  | Nov. 7, 1902        |
|                        |         | 2          | 1         | 235.65                        | 235.65                  | 471.30      | .....do ..... | Nov. 12, 1902       |
|                        | 1       |            |           |                               |                         | 47.64       | Lanigan ....  | Oct. 3, 1902        |
|                        |         | 1          | 7         | 199.86                        | 199.86                  | 399.72      | Prince .....  | Apr. 20, 1903       |
|                        |         | 1          | 1         | 166.11                        | 166.11                  | 332.22      | Thomas ....   | Apr. 17, 1903       |
|                        |         | 1          | 6         | 148.66                        | 148.65                  | 297.31      | Prince .....  | Jan. 15, 1903       |
|                        |         | 1          | 4         | 155.13                        | 155.13                  | 310.26      | .....do ..... | Apr. 23, 1903       |
|                        |         | 1          | 5         | 64.26                         | 64.27                   | 128.53      | Thomas ....   | Jan. 19, 1903       |
|                        | 1       |            |           |                               |                         | 55.19       | Lanigan ....  | June 20, 1903       |
|                        |         | 1          | 6         | 344.08                        | 344.07                  | 688.15      | Ward .....    | June 28, 1903       |
| 3                      | 5       | 90         | 496       | 18,049.74                     | 18,049.86               | 36,581.45   |               |                     |

TABLE 4.—

| No. of order. | Location.  | Pipe sewers laid (length in feet). |          | Man-holes ad-justed. | Basins abandoned. | Basins. | Man-holes. |
|---------------|--|------------------------------------|----------|----------------------|-------------------|---------|------------|
|               |  | 10-inch.                           | 12-inch. |                      |                   |         |            |
| 316           | Champlain avenue, south of Superior street.                                  | .....                              | .....    | .....                | 1                 | .....   | .....      |
| 309           | Columbia road and old Sixteenth street NW. to Park street.                   | .....                              | .....    | 7                    | .....             | .....   | .....      |
| 317           | Delaware avenue NE., between Massachusetts avenue and I street. <sup>b</sup> | .....                              | .....    | .....                | .....             | .....   | .....      |
| 303           | D street SE., between Second and Third streets.                              | .....                              | .....    | .....                | .....             | .....   | 1          |
| 301           | Eleventh street NW., between F and G streets.                                | .....                              | .....    | .....                | .....             | .....   | 1          |
| 312           | Square 554 .....   | .....                              | .....    | .....                | .....             | .....   | 1          |
| 318           | First street NE., between I and K streets.                                   | .....                              | 9        | .....                | .....             | 1       | .....      |
| 306           | G street NW., between Thirteenth and Fourteenth streets.                     | .....                              | .....    | .....                | .....             | .....   | 1          |
| 308           | G street NW., between Twelfth and Thirteenth streets.                        | .....                              | .....    | .....                | .....             | .....   | 1          |
| 310           | K street NW., between Sixth and Seventh streets.                             | .....                              | .....    | .....                | .....             | .....   | 1          |
| 304           | L street NW., between Eighteenth street and Connecticut avenue.              | .....                              | .....    | .....                | .....             | .....   | 1          |
| 314           | R street NW., between Fourteenth and Fifteenth streets.                      | 56                                 | .....    | .....                | .....             | .....   | .....      |
| 300           | Seventeenth NW., between G street and Pennsylvania avenue.                   | .....                              | 6        | .....                | .....             | 1       | .....      |
| 302           | Seventh street and Pennsylvania avenue NW. <sup>c</sup>                      | .....                              | .....    | .....                | .....             | .....   | .....      |
| 311           | Sixth street and Pennsylvania avenue (northwest corner). <sup>f</sup>        | .....                              | .....    | .....                | .....             | .....   | .....      |
| 305           | Square 67 .....  | .....                              | .....    | .....                | .....             | .....   | 1          |
| 307           | Twentieth street NW., between R and S streets.                               | .....                              | 3        | .....                | .....             | .....   | 1          |
| 315           | V street NW., between Tenth and Eleventh streets.                            | 113                                | .....    | .....                | .....             | .....   | 1          |
| Total.....    |  | 169                                | 18       | 7                    | 1                 | 2       | 10         |

<sup>a</sup> Charged against general deposit.

<sup>b</sup> Twenty test holes bored.

<sup>c</sup> Overrun (\$1.31) of the estimated cost charged to the appropriation for assessment and permit work, 1903.

<sup>d</sup> Overrun (\$1.15) of the estimated cost charged to the appropriation for construction and repair sewers and basins, 1903, on account of incidental repairs to sewer.

<sup>e</sup> Awaiting bill for repairs to pavements.

<sup>f</sup> Overrun (\$10.29) of the estimated cost charged to the appropriation for construction and repair sewers and basins, 1903, on account of incidental repairs to sewer.

Whole cost.

| Branches. | Amount<br>of<br>deposit. | Total<br>cost. | Amount<br>returned. | For whom done.                            | Overseer.  | Date of<br>completion. |
|-----------|--------------------------|----------------|---------------------|---|------------|------------------------|
|           | \$25.00                  | \$21.84        | \$3.16              | Benj. F. Nicholas .....                   | Condon...  | June 10, 1903.         |
|           |                          | 293.40         | (a)                 | Washington Railway and Elec-<br>tric Co.  | Lanigan..  | Nov. 17, 1902.         |
|           | 500.00                   | 475.16         | 24.84               | B. and O. R. R. Co.....                   | Condon...  | May 14, 1903.          |
|           | 35.00                    | 29.76          | 5.24                | T. J. Mooney & Co.....                    | Thomas ..  | Sept. 4, 1902.         |
|           | 50.00                    | 51.31          | (c)                 | John Gaghan & Co .....                    | Lanigan..  | July 22, 1902.         |
|           | 40.00                    | 41.15          | (d)                 | W. D. Sullivan .....                      | do .....   | Dec. 4, 1902.          |
|           | 60.00                    | 52.69          | 7.31                | B. & O. R. R. Co.....                     | do .....   | June 22, 1903.         |
|           |                          | (e)            |                     |   | Prince.... |                        |
|           | 50.00                    | 60.29          | (f)                 | Jas. M. Johnson .....                     | Lanigan..  | Dec. 9, 1902.          |
|           | 40.00                    | 42.55          | (g)                 | Appleton P. Clarke, jr.....               | do .....   | Nov. 11, 1902.         |
|           | 35.00                    | 35.00          |                     | Chas. Rauscher .....                      | Prince.... | Sept. 10, 1902.        |
| 1         | 81.00                    | 32.14          | 48.86               | James Nolan & Sons.....                   | Ward ..... | Mar. 17, 1903.         |
|           |                          | (e)            | (h)                 | Gen. Anson Mills.....                     | Lanigan..  |                        |
|           | 50.00                    | 12.19          | 37.81               | Saml. H. Bacon .....                      | do .....   | July 8, 1902.          |
|           | 50.00                    | 17.10          | 32.90               | Upton H. Ridenour.....                    | do .....   | Sept. 2, 1902.         |
|           | 45.00                    | 39.79          | 5.21                | Robt. B. Caverly .....                    | Thomas ..  | Oct. 6, 1902.          |
|           | 45.00                    | 40.11          | 4.89                | F. T. Sanner.....                         | Lanigan..  | Oct. 22, 1902.         |
| 1         | 196.00                   | 191.70         | 4.30                | W. H. Goines, chairman board<br>trustees. | Ward ..... | *Aug. 6, 1903.         |
| 2         | 1,302.00                 | 1,436.18       | 174.52              |   |            |                        |

g Overrun (\$2.55) of the estimated cost charged to the appropriation for assessment and permit work, 1903.  
h Work begun in fiscal year 1902.  
i Making excavation in street to ascertain cause of apparent defective drainage of cellar under Commercial Hotel.  
j Making excavation in street to ascertain cause of water in cellar of building.  
k Repairs to pavements made in fiscal year 1904.

TABLE 5.—*Mains*

| No. of order. | Location.  | Pipe sewers laid (length in feet). |        |        |        |
|---------------|--|------------------------------------|--------|--------|--------|
|               |  | 8-in.                              | 10-in. | 12-in. | 15-in. |
| 523           | Reservation B .....  |                                    |        |        |        |
| 551           | B street SW., crossing First street.....                                       |                                    |        |        |        |
| 524           | Center street and Meridian avenue (southeast corner).....                      |                                    |        | 18     |        |
| 542           | C street SW., crossing Delaware avenue .....                                   |                                    |        |        |        |
| 589           | Champlain avenue NW., south of Superior street .....                           |                                    |        |        |        |
| 503           | Connecticut and California avenues NW. (northwest and northeast corners) ..... |                                    |        | 45     |        |
| 557           | Columbia Road east of Eighteenth street.....                                   |                                    |        | 39     |        |
| 559           | Columbia Road west of Sixteenth street.....                                    |                                    |        | 21     |        |
| 561           | Columbia Road and Sixteenth street NW. (northeast corner).....                 |                                    |        | 24     |        |
| 570           | Columbia Road and Sixteenth street NW. (northwest corner).....                 |                                    |        |        | 12     |
| 572           | Columbia Road east of Ontario avenue NW .....                                  |                                    | 8      |        |        |
| 543           | Delaware avenue SW., between B and C streets.....                              |                                    |        |        | 525    |
| 549           | D street NE., between Ninth and Tenth streets .....                            |                                    |        | 48     |        |
| 571           | D street NE., crossing Eleventh street.....                                    |                                    |        |        | 45     |
| 509           | Eleventh and Kenyon streets NW. (southwest corner).....                        |                                    |        | 9      |        |
| 510           | Eleventh and Kenyon streets NW. (northwest corner).....                        |                                    |        | 33     |        |
| 511           | Eleventh and Harvard streets NW. (southwest corner) .....                      |                                    |        | 12     | 75     |
| 512           | Eleventh and Dartmouth streets NW. (southwest corner).....                     |                                    |        | 33     |        |
| 513           | Eleventh and Wallach streets NW. (southwest corner) .....                      |                                    |        | 12     |        |
| 514           | Eleventh and Wallach streets NW. (northwest corner) .....                      |                                    |        | 15     |        |
| 515           | Eleventh and Princeton streets NW. (southwest corner).....                     |                                    |        |        | 33     |
| 516           | Eleventh and Princeton streets NW. (northwest corner).....                     |                                    |        |        | 30     |
| 517           | Eleventh and Irving streets NW. (southwest corner).....                        |                                    |        | 36     |        |
| 518           | Eleventh and Irving streets NW. (northwest corner).....                        |                                    |        | 33     |        |
| 520           | Eleventh and Harvard streets NW. (northwest corner).....                       |                                    |        | 3      |        |
| 531           | Eleventh and Columbia streets NW. (southwest corner).....                      |                                    |        | 3      |        |
| 548           | Eleventh street and Florida avenue NW. (northeast corner).....                 |                                    |        | 39     |        |
| 555           | Eighth and I streets SE. (northwest corner).....                               |                                    |        | 24     |        |
| 504           | F street NW., between Sixth and Seventh streets.....                           |                                    |        | 33     |        |
| 526           | Fourteenth and Bacon streets NW. (southwest corner).....                       |                                    |        | 66     |        |
| 529           | First and U streets NW. (southeast corner).....                                |                                    |        |        | 6      |
| 537           | Fifteenth street and Kentucky avenue SE. (intersection).....                   |                                    | 24     |        |        |
| 538           | First and O streets SE. (northwest corner).....                                |                                    |        | 15     |        |
| 550           | First street NW., between Pierce and M streets.....                            |                                    |        | 42     |        |
| 578           | Fourth street NW., between R street and Florida avenue.....                    |                                    |        |        | 205    |
| 585           | Fourteenth street NE., north of East Capitol.....                              |                                    |        | 54     |        |
| 592           | Florida avenue and Decatur street NW. (northwest corner) .....                 |                                    |        | 3      |        |
| 593           | Fifth street NW., between F and G streets.....                                 |                                    | 12     |        |        |
| 594           | Fifth street NW., crossing F street .....                                      |                                    |        |        |        |
| 595           | Fifth street NW., between E and F streets.....                                 |                                    |        |        | 381    |
| 601           | Fifteenth street SW., between C and D streets.....                             |                                    |        |        |        |
| 544           | Georgia avenue and K street SE.....  |                                    |        | 240    |        |
| 567           | G and One-half streets SW. (intersection).....                                 |                                    |        | 12     |        |
| 500           | H street NE., between Thirteenth and Fourteenth streets.....                   |                                    |        |        |        |
| 501           | H street NE., between Thirteenth and Fourteenth streets.....                   |                                    |        | 523    |        |
| 508           | Half and M streets SW. (intersection).....                                     |                                    |        |        | 57     |
| 534           | H street NE., between Thirteenth and Fourteenth streets.....                   |                                    |        |        | 21     |
| 581           | H street NE., between Thirteenth and Fourteenth streets.....                   |                                    |        | 144    |        |
| 582           | I street NW., crossing Thirteenth street .....                                 |                                    |        |        |        |
| 568           | K street SE., crossing Fourteenth street .....                                 |                                    |        |        |        |
| 584           | K street NE., crossing Sixth street.....                                       |                                    |        | 42     |        |
| 528           | L street NW., between Eighteenth street and Connecticut avenue.....            |                                    |        | 80     |        |
| 530           | Lincoln avenue NE., just north of T street .....                               |                                    |        |        | 54     |
| 558           | L street NE., west of Ninth street.....  |                                    |        |        | 3      |
| 573           | L street SE., between Twelfth and Thirteenth streets and square 1023.....      |                                    |        | 9      |        |
| 532           | Maryland avenue SW., east of Fourth street.....                                |                                    |        | 8      |        |
| 591           | Massachusetts avenue and Decatur street NW. (northeast corner) .....           |                                    |        | 18     |        |
| 576           | Michigan avenue NE., 500 feet west Lincoln avenue .....                        |                                    |        |        | 81     |
| 577           | Michigan avenue NE., 500 feet west Lincoln avenue .....                        |                                    |        |        |        |
| 579           | Morgan avenue and Lamont Place (southwest corner).....                         |                                    |        | 27     |        |
| 564           | N street SW., from Half street eastward .....                                  |                                    |        | 90     |        |
| 574           | North Capitol street, just north of W street.....                              |                                    |        | 90     |        |
| 580           | New Hampshire avenue, between Whitney and Brightwood avenues.....              |                                    |        | 105    |        |
| 505           | Square 198 .....   |                                    |        |        | 186    |
| 506           | Square 198 .....   |                                    |        | 15     |        |
| 546           | Square 195 .....   |                                    |        | 103    |        |
| 552           | Square 164 .....   |                                    |        |        | 97     |
| 569           | Square 107 .....   |                                    | 96     |        |        |
| 590           | Park driveway, between Seventh and Fourteenth streets.....                     |                                    |        | 117    |        |
| 519           | Second street SE., between E and F streets.....                                |                                    |        |        |        |

<sup>a</sup> Apparent excessive cost due to the fact that manhole was constructed for connections from basins on northwest and southwest corners. The labor on manhole was charged to job 513. The material was charged to job 514.

<sup>b</sup> Awaiting bill for repairs to pavements.



e sewers.

| Sewers laid (length in feet). |        | Basins. | Man-holes. | Branches. | Cost of materials. | Cost of labor. | Cost of repairs to pavements. | Total cost. |
|-------------------------------|--------|---------|------------|-----------|--------------------|----------------|-------------------------------|-------------|
| 21-in.                        | 24-in. |         |            |           |                    |                |                               |             |
| 160                           |        |         | 1          | 2         | \$175.64           | \$190.05       | \$27.49                       | \$393.18    |
| 30                            |        |         |            |           | 29.53              | 60.36          |                               | 89.89       |
|                               |        | 1       |            |           | 27.87              | 40.05          |                               | 67.42       |
|                               | 96     |         | 1          |           | 188.15             | 172.00         | 24.98                         | 835.13      |
|                               |        | 1       |            |           | 28.82              | 32.40          |                               | 61.22       |
|                               |        | 2       |            |           | 46.18              | 97.11          |                               | 143.29      |
|                               |        | 1       |            |           | 48.52              | 61.24          |                               | 109.76      |
|                               |        | 1       |            |           | 39.43              | 51.11          |                               | 90.54       |
|                               |        | 1       |            |           | 48.46              | 55.37          |                               | 103.83      |
|                               |        | 1       | 1          |           | 50.33              | 50.98          |                               | 101.31      |
|                               |        | 1       |            |           | 20.07              | 41.29          |                               | 61.36       |
|                               |        |         | 2          | 3         | 338.41             | 469.52         |                               | 807.93      |
|                               |        |         | 1          |           | 43.76              | 40.24          |                               | 84.00       |
|                               |        |         | 1          |           | 48.39              | 49.52          | 13.03                         | 110.94      |
|                               |        | 1       |            |           | 23.98              | 29.87          |                               | 53.85       |
|                               |        | 1       |            |           | 33.38              | 35.22          |                               | 68.60       |
|                               |        | 1       | 1          |           | 83.87              | 113.68         |                               | 197.55      |
|                               |        | 1       |            |           | 32.86              | 39.36          |                               | 72.22       |
|                               |        | 1       |            |           | 24.41              | a 48.86        |                               | 73.27       |
|                               |        | 1       | 1          |           | a 47.50            | 24.05          |                               | 71.55       |
|                               |        | 1       |            |           | 36.48              | 31.60          |                               | 68.08       |
|                               |        | 1       |            |           | 85.24              | 46.06          |                               | 131.30      |
|                               |        | 1       |            |           | 33.33              | 41.50          |                               | 74.83       |
|                               |        | 1       |            |           | 44.71              | 41.87          |                               | 86.58       |
|                               |        | 1       |            |           | 19.83              | 25.22          |                               | 45.05       |
|                               |        | 1       |            |           | 29.53              | 29.69          | 4.16                          | 63.38       |
|                               |        | 1       |            |           | 34.80              | 62.75          |                               | 97.55       |
|                               |        | 1       |            |           | 30.78              | 29.12          | (b)                           |             |
|                               |        |         |            | 1         | 41.21              | 186.48         | 24.23                         | 203.92      |
|                               |        | 1       | 1          |           | 76.73              | 113.80         | 27.52                         | 218.05      |
|                               |        | 1       |            |           | 33.27              | 32.25          |                               | 65.52       |
|                               |        | 1       |            |           | 27.49              | 44.63          |                               | 72.12       |
|                               |        | 1       |            |           | 34.05              | 43.56          |                               | 77.61       |
|                               |        |         | 2          |           | 59.74              | 82.33          | 14.31                         | 156.38      |
|                               |        |         | 2          | 5         | 159.62             | 279.25         | 16.77                         | 455.64      |
|                               |        | 1       |            |           | 50.52              | 46.06          |                               | 96.58       |
|                               |        | 1       |            |           | 31.11              | 30.43          |                               | 61.54       |
| 301                           |        |         | 2          | 11        | 357.69             | 675.17         | (b)                           |             |
|                               |        |         | 1          | 1         | 79.00              | 162.68         | (b)                           |             |
|                               |        |         | 1          | 9         | 258.15             | e 710.03       | (b)                           |             |
|                               |        |         | 1          |           | 142.46             | 803.94         |                               | (d)         |
|                               |        | 6       | 3          |           | 288.91             | 270.62         |                               | 559.53      |
|                               |        |         | 1          |           | 53.34              | 57.11          | 13.16                         | 123.61      |
| 54                            |        |         |            |           | 53.93              | 96.53          | 16.62                         | 167.08      |
|                               |        |         | 2          | 14        | 295.41             | 479.19         | c 68.93                       | 843.53      |
|                               |        |         | 1          |           | 51.18              | 70.29          |                               | 121.47      |
|                               |        | 1       |            |           | 31.80              | 32.74          | 13.92                         | 78.46       |
|                               |        |         | 1          | 6         | 85.81              | 239.60         | 14.77                         | 340.18      |
|                               | 75     |         |            |           | 90.29              | 119.90         | 73.81                         | 284.00      |
|                               |        |         | 1          |           | 57.65              | 115.62         |                               | 173.27      |
| 48                            |        |         | 1          |           | 88.64              | 158.89         | 3.46                          | 250.99      |
|                               |        |         | 1          | 7         | 108.12             | 214.07         | f 24.25                       | 346.44      |
|                               |        | 2       |            |           | 87.37              | 73.24          | .95                           | 161.56      |
|                               |        | 1       |            |           | 29.93              | 44.35          |                               | 74.28       |
|                               |        | 1       | 2          |           | 266.18             | 764.65         | 160.17                        | 1,191.00    |
|                               |        | 1       |            |           | 23.94              | 18.13          |                               | 42.07       |
|                               |        | 1       |            |           | 35.55              | 39.75          |                               | 75.30       |
|                               |        | 2       |            |           | 106.59             | 98.26          |                               | 204.85      |
|                               |        |         | 1          |           | 106.10             | 148.05         |                               | 254.15      |
|                               |        | 1       |            |           | 39.87              | 34.62          |                               | 74.49       |
|                               |        |         |            |           | 40.50              | 86.31          | 16.80                         | 143.61      |
|                               |        | 2       |            |           | 99.00              | 125.46         |                               | 224.46      |
|                               |        | 2       |            |           | 102.13             | 102.16         |                               | 204.29      |
|                               |        |         | 1          | 3         | 132.18             | 213.73         |                               | 345.91      |
|                               |        | 1       |            |           | 24.73              | 37.05          |                               | 61.78       |
|                               |        |         | 2          | 2         | 92.64              | 270.29         | 71.66                         | 434.59      |
|                               |        |         | 1          | 2         | 125.24             | 365.05         | (b)                           |             |
|                               |        |         | 1          | 6         | 52.81              | 94.04          | 16.17                         | 163.02      |
|                               |        | 6       |            |           | 218.03             | 161.49         |                               | 379.52      |
|                               |        |         | 2          |           | 247.60             | 394.76         | 53.82                         | 696.18      |

a Includes \$20.93 cost of work by plumber.  
d Work completed in fiscal year 1904.  
e Includes \$37.01 cost of work by plumber.  
f Includes \$1.90 cost of work by plumber.

TABLE 5.—Main and

| No. of order. | Location.  | Pipe sewers laid (length in feet). |        |        |        |
|---------------|--|------------------------------------|--------|--------|--------|
|               |  | 8-in.                              | 10-in. | 12-in. | 15-in. |
| 521           | S street, between Nineteenth and Twentieth streets .....                   |                                    |        |        |        |
| 525           | Second and E streets SE. (northeast corner) .....                          |                                    |        | 3      |        |
| 527           | Second and N streets SE. <sup>a</sup> .....                                |                                    |        |        |        |
| 533           | Sheridan street and Piney Branch road .....                                |                                    |        | 27     |        |
| 536           | Seventeenth street and Pennsylvania avenue NW .....                        |                                    |        | 39     |        |
| 541           | Seventeenth and B streets NW. (southwest corner) .....                     |                                    |        | 30     |        |
| 547           | S street NW., crossing Nineteenth street .....                             |                                    |        | 9      |        |
| 556           | Seventeenth street SE., between A and B streets .....                      |                                    |        |        |        |
| 563           | Second and M streets SW. (northwest corner) .....                          |                                    | 42     |        |        |
| 596           | Sheridan street NW., just east of Brown street .....                       | 30                                 | 91     |        |        |
| 602           | Seventh and I streets NE. (northeast corner) .....                         |                                    |        | 6      |        |
| 560           | Sixteenth street NW., south of Kenesaw avenue .....                        |                                    |        | 30     |        |
| 575           | Sixteenth and Grant streets NW .....                                       |                                    |        | 138    |        |
| 502           | Square 1003 <sup>b</sup> .....   |                                    | 151    |        |        |
| 507           | Third street SW., crossing O street .....                                  |                                    |        |        |        |
| 535           | Thirteenth street NW., between E and F streets .....                       |                                    |        |        | 176    |
| 553           | Twelfth and L streets SE. (northeast and northwest corners) .....          |                                    |        | 54     |        |
| 504           | Square 265 .....   | 69                                 |        |        |        |
| 563           | Twelfth and Austin streets NE. (northeast and southeast corners) .....     |                                    |        | 60     |        |
| 565           | Tenth street NE., between D and E streets .....                            |                                    |        | 24     |        |
| 566           | Square 1009 .....  |                                    |        | 195    |        |
| c 584         | Tenth street NE., just north of I street .....                             |                                    |        | 15     |        |
| 586           | Tenth and K streets NE. (southeast corner) .....                           |                                    |        | 30     |        |
| 587           | Tenth and K streets NE. (northwest corner) .....                           |                                    |        | 12     |        |
| 588           | Tenth and K streets NE. (northeast corner) .....                           |                                    |        | 33     |        |
| 599           | Tenth and E streets NE. (southeast corner) .....                           |                                    |        | 6      |        |
| 600           | Tennessee avenue and E street NE. (intersection) .....                     |                                    |        |        | 37     |
| 522           | U street NW., between Thirteenth and Fourteenth streets .....              |                                    |        |        |        |
| 539           | Virginia avenue and C street NW. (intersection) .....                      |                                    |        | 24     |        |
| 540           | Virginia avenue NW., just north of B street .....                          |                                    |        | 9      |        |
| 545           | Whitney avenue and Eleventh street (northwest and northeast corners) ..... |                                    |        | 90     |        |
| 562           | Water street NW., between Twenty-fourth and Twenty-sixth streets .....     |                                    |        |        |        |
|               | Total .....  | 99                                 | 419    | 3,162  | 2,044  |

<sup>a</sup> Fifty-five corner and 46 side artificial basin tops constructed.  
<sup>b</sup> Work begun in fiscal year 1902.

pipe sewers—Continued.

| Pipe sewers laid (length in feet). |        |        | Basins. | Man-holes. | Branches. | Cost of materials. | Cost of labor. | Cost of repairs to pavements. | Total cost. |
|------------------------------------|--------|--------|---------|------------|-----------|--------------------|----------------|-------------------------------|-------------|
| 18-in.                             | 21-in. | 24-in. |         |            |           |                    |                |                               |             |
| 407                                |        |        |         | 2          | 17        | \$295.67           | \$856.35       | \$14.01                       | \$1,166.03  |
|                                    |        |        | 1       |            |           | 81.10              | 27.98          |                               | 59.08       |
|                                    |        |        |         |            |           | 283.35             | 217.56         |                               | 500.91      |
|                                    |        |        | 1       |            |           | 81.45              | 42.70          |                               | 74.15       |
|                                    |        |        | 1       |            |           | 43.14              | 55.67          |                               | 98.81       |
|                                    |        |        | 1       |            |           | 32.69              | 51.05          |                               | 83.74       |
|                                    |        | 48     |         |            |           | 60.52              | 156.80         | 17.67                         | 284.99      |
| 420                                |        |        |         | 1          | 8         | 312.84             | 808.18         |                               | 1,121.02    |
|                                    |        |        | 1       |            |           | 88.15              | 30.74          |                               | 68.89       |
|                                    |        |        | 1       | 1          | 2         | 94.80              | 116.29         |                               | 211.09      |
|                                    |        |        | 1       |            |           | 31.34              | 31.89          |                               | 63.23       |
|                                    |        |        | 1       |            |           | 43.50              | 50.33          |                               | 93.83       |
|                                    |        |        | 4       |            |           | 164.39             | 219.23         |                               | 383.62      |
|                                    |        |        |         | 2          | 14        | 103.80             | 249.35         | 313.82                        | 666.97      |
| 45                                 |        |        |         |            |           | 33.09              | 62.60          |                               | 95.69       |
|                                    |        | 21     |         | 1          | 7         | 152.99             | 329.86         | 87.04                         | 569.89      |
|                                    |        |        | 2       |            |           | 71.34              | 85.47          |                               | 156.81      |
|                                    |        |        |         |            |           | 17.50              | 42.79          |                               | 60.29       |
|                                    |        |        | 2       |            |           | 84.42              | 112.54         |                               | 196.96      |
|                                    |        |        |         |            |           | 11.09              | 15.13          | .96                           | 27.18       |
|                                    |        |        |         | 1          |           | 100.16             | 241.20         |                               | 341.36      |
|                                    |        |        | 1       |            |           | 24.47              | 31.12          |                               | 55.59       |
|                                    |        |        | 1       |            |           | 30.20              | 27.93          |                               | 58.13       |
|                                    |        |        | 1       |            |           | 24.20              | 32.89          |                               | 57.09       |
|                                    |        |        | 1       |            |           | 31.68              | 37.06          |                               | 68.74       |
|                                    |        |        | 1       |            |           | 21.13              | 30.18          |                               | 51.31       |
|                                    |        |        |         | 1          |           | 56.87              | 75.59          |                               | 132.46      |
| 285                                |        |        |         | 1          | 9         | 240.01             | 401.96         | <sup>d</sup> 64.92            | 706.89      |
|                                    |        |        | 1       |            |           | 37.31              | 45.94          |                               | 83.25       |
|                                    |        |        | 1       |            |           | 33.14              | 37.00          |                               | 70.14       |
|                                    |        |        | 2       |            |           | 71.91              | 110.76         |                               | 182.67      |
| 105                                |        | 177    |         | 2          |           | 320.81             | 439.22         |                               | 760.03      |
| 2,174                              | 593    | 417    | 81      | 52         | 124       | 8,909.33           | 14,672.01      | 1,199.40                      | 21,541.43   |

<sup>c</sup> Awaiting bill for repairs to pavements.  
<sup>d</sup> Includes \$11.23 cost of work by plumber.

TABLE 6.—Suburban

| No. of order. | Location.  | Pipe sewers laid (length in feet). |         |          |          |          |
|---------------|--|------------------------------------|---------|----------|----------|----------|
|               |  | 6-inch.                            | 8-inch. | 10-inch. | 12-inch. | 15-inch. |
| 813           | Arizona avenue, about 500 feet north of Canal road . . .                       |                                    |         |          |          |          |
| 816           | Baltimore street, between Nineteenth and Twentieth streets NW.                 |                                    |         |          | 57       |          |
| 843           | Brightwood avenue at Harvard street . . . . .                                  |                                    |         |          |          |          |
| 802           | Carroll avenue crossing, right of way Baltimore and Ohio R. R. Co.             |                                    |         | 66       |          |          |
| 806           | Central avenue NW., between Huron street and Columbia road.                    |                                    |         |          | 150      |          |
| 808           | Champlain avenue and Columbia road, between Erie street and Ontario avenue.    |                                    |         |          | 228      |          |
| 822           | Columbia road and Sixteenth street NW. (intersection)                          |                                    |         |          |          |          |
| 823           | Columbia road and Sixteenth street NW. (intersection)                          |                                    |         |          |          |          |
| 834           | Connecticut avenue, between Columbia road and California avenue, NW.           |                                    |         |          | 174      |          |
| 807           | Decatur street crossing, Florida ave. . . . .                                  |                                    |         |          |          |          |
| 821           | Decatur street, between Twenty-second street and Massachusetts avenue.         |                                    |         | 30       |          |          |
| 817           | Eleventh street, between Kenyon and Dartmouth streets.                         |                                    |         |          |          |          |
| 818           | Eleventh street, between Dartmouth street and Whitney avenue.                  |                                    |         |          |          |          |
| 826           | Eighteenth street, between Lowell and Milwaukee streets.                       |                                    |         |          | 24       | 186      |
| 836           | Eleventh and Wallach streets, between Eleventh street and Sherman avenue.      |                                    |         |          | 39       |          |
| 801           | Franklin street, from Nichols avenue southward . . . .                         |                                    |         |          | 225      |          |
| 819           | First street NW., between W and Albany streets . . . .                         |                                    |         |          |          | 387      |
| 803           | Harvard street NW., between Sherman avenue and Eleventh street.                |                                    |         |          |          |          |
| 827           | Hancock street NW., between Brightwood and Warder avenues.                     |                                    |         |          |          |          |
| 824           | Indianapolis street NE., between Seventh and Eighth streets.                   |                                    |         |          |          |          |
| 809           | Kalorama and Connecticut avenues (intersection) . . .                          |                                    |         |          | 240      |          |
| 838           | King street NE., between Trinidad street and Bladensburg road.                 |                                    |         |          |          |          |
| 837           | Levis street NE., between Trinidad street and Bladensburg road.                |                                    |         |          |          |          |
| 804           | Massachusetts avenue and Decatur street NW. (intersection).                    |                                    |         |          | 18       |          |
| 815           | Marshall street NW., between Sherman avenue and Eleventh street.               |                                    |         |          |          |          |
| 826           | Marshall street NW., crossing Brightwood avenue. . . .                         |                                    |         |          | 63       |          |
| 830           | McClellan street NW., between Brightwood and Warder avenues.                   |                                    |         |          |          | 297      |
| 831           | McClellan street NW., between Brightwood and Warder avenues.                   |                                    |         |          |          | 555      |
| 833           | Michigan avenue, west of Lincoln avenue. . . . .                               |                                    |         |          |          |          |
| 800           | Nichols avenue, between Franklin street and Howard avenue.                     |                                    |         |          |          | 336      |
| 812           | New Hampshire, Whitney, and Sherman avenues (intersection).                    |                                    |         |          | 69       | 57       |
| 806           | Ontario avenue, between Erie street and Columbia road.                         |                                    |         |          | 129      | 342      |
| 814           | Pierce street, between Harrison and Jackson streets. .                         |                                    |         |          | 115      |          |
| 832           | Pierce Mill road, west of Connecticut avenue. . . . .                          |                                    |         |          |          |          |
| 835           | Pierce Mill road, between National Bureau of Standards and Connecticut avenue. |                                    | 1,017   |          |          |          |
| 840           | R street NE., between Fourth and Fifth streets. . . . .                        |                                    |         |          |          |          |
| 842           | R street NE., between Third and Fourth streets. . . . .                        |                                    |         |          |          |          |
| 829           | Steuben street NW., from Brightwood avenue eastward.                           |                                    |         |          |          | 303      |
| 839           | S street NE., between Fourth and Fifth streets . . . . .                       |                                    |         |          |          |          |
| 841           | S street NE., between Third and Fourth streets. . . . .                        |                                    |         |          |          |          |
| 820           | Sixteenth street NE., from Rosedale street southward.                          |                                    |         |          | 72       |          |
| 828           | Sixteenth street NW., from Kenesaw avenue southward.                           |                                    |         |          | 164      |          |
| 810           | T street NE., between Fourth and Fifth streets . . . . .                       |                                    | 6       |          |          |          |
| 811           | Wyoming avenue NW., between Nineteenth and Twentieth streets.                  | 12                                 |         |          |          |          |
|               | Total . . . . .  | 12                                 | 1,023   | 96       | 1,767    | 2,463    |

sewers.

| Pipesewers laid (length in feet). |          |          | Man-holes. | Branches. | Cost of materials. | Cost of labor. | Cost of repairs to pavements. | Total cost. | Remarks.  |
|-----------------------------------|----------|----------|------------|-----------|--------------------|----------------|-------------------------------|-------------|---|
| 18-inch.                          | 21-inch. | 24-inch. |            |           |                    |                |                               |             |   |
|                                   |          |          |            |           | \$7.10             | \$18.00        |                               | \$25.10     | 1 weir dam constructed.   |
|                                   |          |          | 1          |           | 53.40              | 122.82         | \$48.08                       | 224.30      |   |
|                                   |          |          |            |           |                    | 46.91          |                               |             | Work completed in fiscal year 1904.                               |
|                                   |          |          | 1          |           | 53.85              | 132.12         |                               | 185.97      |   |
|                                   |          |          | 1          |           | 87.00              | 243.26         |                               | 330.26      |   |
|                                   |          |          | 1          |           | 115.63             | 298.93         |                               | 414.56      |   |
| 189                               |          |          |            |           | 141.69             | 291.19         |                               | 432.88      | Awaiting bill for repairs to pavements.                           |
|                                   |          | 138      | 1          |           | 185.38             | 251.80         |                               | 437.18      |   |
|                                   |          |          | 1          |           | 98.12              | 163.60         |                               |             |   |
| 39                                |          |          | 1          |           | 50.86              | 71.39          |                               | 122.25      |   |
|                                   |          |          |            |           | 11.76              | 23.08          |                               | 34.84       |   |
|                                   | 357      |          | 1          |           | 362.84             | 450.24         |                               | 813.08      |   |
| 428                               |          |          | 1          | 1         | 328.51             | 524.22         |                               | 852.73      | Digging test holes.   |
|                                   |          |          | 1          |           | 131.28             | 242.78         | 22.83                         | 396.89      |   |
| 33                                |          |          | 1          |           | 68.26              | 91.24          |                               | 159.50      |   |
|                                   |          |          | 1          |           | 123.66             | 199.07         | 10.59                         | 333.32      |   |
|                                   |          |          | 3          |           | 292.05             | 498.88         |                               | 790.93      |   |
| 357                               |          |          | 2          |           | 291.65             | 359.48         |                               | 651.13      |   |
| 533                               |          |          | 2          | 1         | 431.03             | 568.01         |                               | 999.04      |   |
|                                   | 341      |          | 1          | 1         | 353.59             | 603.32         |                               | 956.91      |   |
|                                   |          |          | 2          |           | 148.78             | 245.17         | 53.41                         | 447.36      |   |
| 264                               |          |          |            |           | 182.78             | 507.97         |                               | 690.75      |   |
| 270                               |          |          | 1          |           | 207.81             | 515.59         | 4.43                          | 727.83      |   |
| 66                                |          |          | 2          |           | 108.82             | 167.52         |                               | 276.34      |   |
|                                   |          | 432      | 2          |           | 550.85             | 578.28         |                               | 1,129.13    |   |
|                                   |          |          | 1          |           | 55.03              | 82.08          | 8.31                          | 145.42      |   |
|                                   |          |          | 1          |           | 186.04             | 322.59         |                               | 508.63      |   |
|                                   |          |          | 2          | 3         | 378.67             | 874.56         |                               | 1,253.23    |   |
|                                   |          |          |            |           |                    | 26.88          |                               | 26.88       | Do.   |
|                                   |          |          | 1          |           | 222.64             | 390.88         | 83.39                         | 646.91      |   |
|                                   |          |          | 2          |           | 123.35             | 169.06         |                               | 292.41      | Work performed for and at the expense of the Treasury Department. |
|                                   |          |          | 2          |           | 287.69             | 425.49         |                               | 713.18      |   |
|                                   |          |          |            | 2         | 51.31              | 84.09          | 10.51                         | 145.91      |   |
|                                   |          |          |            |           |                    | 8.50           |                               | 8.50        |   |
|                                   |          |          | 4          |           | 346.58             | 720.48         |                               | 1,067.06    |   |
|                                   |          | 267      | 1          |           | 336.78             | 371.71         | 14.84                         | 723.33      |   |
|                                   | 168      |          | 1          |           | 208.36             | 305.16         | 6.26                          | 519.78      |   |
|                                   |          |          | 1          |           | 187.68             | 300.74         |                               | 488.42      |   |
|                                   | 84       | 246      | 2          |           | 432.55             | 549.92         | 17.73                         | 1,000.20    |   |
| 398                               |          |          | 2          | 7         | 324.45             | 467.28         | <sup>a</sup> 41.22            | 832.95      |   |
|                                   |          |          |            |           | 31.73              | 54.55          |                               | 86.28       | Repairs to pavements made in fiscal year 1904.                    |
|                                   |          |          |            | 1         | 73.98              | 313.86         |                               | 387.84      |   |
|                                   |          | 273      | 2          |           | 371.54             | 480.64         | 24.22                         | 876.40      |   |
|                                   |          |          |            |           | 2.84               | 9.31           | 3.97                          | 16.12       |   |
| 2,577                             | 950      | 1,356    | 49         | 16        | 8,007.92           | 13,172.65      | 299.79                        | 21,171.73   |   |

<sup>a</sup> Includes \$27.42 cost of work, by plumber.



*Miscellaneous.*

\* Connecting public-comfort stations.  
f Work completed in fiscal year 1904.  
g Constructing box drain and connections.  
h Discharge channel constructed.  
i Siphons.

TABLE 8.—Average cost of materials and labor per linear foot of pipe sewers constructed by day labor, also average cost of basins.

[In this table it is assumed that the cost of materials used in basin connections is the same as that in the same size sewer. It is also assumed that on account of the difference in the depth of excavation the cost of labor is half the cost as that of the same size sewer. This table does not embrace the cost of work of exceptionally difficult construction.]

| Size of sewers.         | Length.      | Cost of materials. | Cost of labor.   | Total cost.      |
|-------------------------|--------------|--------------------|------------------|------------------|
|                         | <i>Feet.</i> | <i>Per foot.</i>   | <i>Per foot.</i> | <i>Per foot.</i> |
| 8-inch.....             | 1,828        | \$0.358+           | \$0.804+         | \$1.162          |
| 10-inch.....            | 5,847        | .531—              | 1.031—           | 1.562            |
| 12-inch.....            | 20,184       | .539+              | 1.093—           | 1.632            |
| 15-inch.....            | 4,242        | .726+              | 1.32—            | 2.046            |
| 18-inch.....            | 4,495        | .807—              | 1.518—           | 2.325            |
| 21-inch.....            | 1,543        | 1.061—             | 1.57—            | 2.631            |
| 24-inch.....            | 1,902        | 1.32+              | 1.742—           | 3.062            |
| 8-inch connection.....  | 30           | .358+              | .402             | .76              |
| 10-inch connection..... | 91           | .531—              | .516             | 1.047            |
| 12-inch connection..... | 2,313        | .539+              | .547             | 1.086            |
| 15-inch connection..... | 324          | .726+              | .66              | 1.386            |
| 18-inch connection..... | 278          | .807—              | .759             | 1.566            |
| Basins constructed..... | 144          | 22.214+            | 33.338—          | 55.552           |

TABLE 9.—Number of foremen, inspectors, and other employees of the sewer division, office of the chief clerk, engineer department, disbursing officer, inspector of asphalt and cements, and of the engineer-department stables, temporarily employed, and appropriations from which paid, for the fiscal year ending June 30, 1903.

[This table does not include the hire of carts, wagons, and teams.]

|   | Foremen.        | Inspectors.     | Other employees. | Total.          |
|---|-----------------|-----------------|------------------|-----------------|
| Number employed.....  | 11              | 23              | 305              | 339             |
|   | <i>Dollars.</i> | <i>Dollars.</i> | <i>Dollars.</i>  | <i>Dollars.</i> |
| Cleaning and repairing sewers and basins.....               | 6,700.64        | 264.00          | 33,581.60        | 40,546.24       |
| Main and pipe sewers.....                                   | 1,157.00        | 885.50          | 13,437.71        | 15,480.21       |
| Suburban sewers.....  | 1,084.00        | 965.50          | 12,487.77        | 14,537.27       |
| Assessment and permit work and whole cost to applicant..... | 2,076.00        | 1,476.47        | 22,379.27        | 25,931.74       |
| Sewerage, pumping station.....                              | 20.00           | 1,323.50        | 4,270.96         | 5,614.46        |
| East side to Twelfth street.....                            |                 | 3,087.50        | 1,143.66         | 4,231.16        |
| Georgetown trunk sewer.....                                 |                 | 820.00          | 497.63           | 1,317.63        |
| Extension of boundary sewer.....                            |                 | 1,217.00        | 865.25           | 2,082.25        |
| Low area trunk sewer.....                                   |                 | 1,725.75        | 1,297.87         | 3,023.62        |
| B street and New Jersey avenue trunk sewer.....             |                 | 1,236.00        | 1,081.56         | 2,317.56        |
| Main through lands of Davidge and Trinity College.....      |                 | 284.00          |                  | 284.00          |
| Unused balances.....  |                 | 185.00          |                  | 185.00          |
| Sidewalks and curbs.....                                    | 16.00           |                 | 89.03            | 105.03          |
| Improvement and repairs, northeast section.....             | 52.00           |                 | 241.05           | 293.05          |
| Improvement and repairs, southeast section.....             | 19.00           |                 | 83.69            | 102.69          |

|   | Foremen. | Other employees. | Total.  |
|---|----------|------------------|---------|
| Improvement and repairs southwest section.....  | \$4.00   | \$23.56          | \$27.56 |
| Repairs to streets.....   | 93.50    | 460.09           | 553.59  |
| Repairs to roads.....   | 19.00    | 107.35           | 126.35  |
| Erection of workhouse for males.....  | 36.50    | 306.69           | 343.19  |
| Improving Joliet street.....  | 6.00     | 60.88            | 66.88   |
| Temporary public-comfort stations.....  | 6.50     | 46.13            | 52.63   |
| Paving South Capitol street and Delaware avenue between B and C streets.....          | 11.00    | 54.22            | 65.22   |
| Widening and macadamizing Sixteenth street between Columbia road and Park street..... | 10.00    | 37.99            | 47.99   |
| Pumping plant for sewerage disposal, Industrial Home School...                        | 20.00    | 88.10            | 108.10  |
| Roping Pennsylvania avenue, police and firemen parade.....                            | 2.75     | .77              | 3.52    |
| Preservation public order, G. A. R. encampment, 1902.....                             | 86.00    | 300.24           | 386.24  |
| Municipal building.....   | 34.00    | 219.70           | 253.70  |
| Paving North Capitol street.....  | 2.00     | 7.81             | 9.81    |
| Automatic flushing tanks.....   | 77.00    | 278.28           | 355.28  |
| Paving Decatur street.....  | 1.00     | 5.56             | 6.56    |



WASHINGTON, September 25, 1903.

SIR: I have the honor to submit the following tabulated statement of the amount of conduits laid during the fiscal year ending June 30, 1903, together with a summary of conduits constructed to June 30, 1903.

Very respectfully,

GEO. W. WALLACE,  
Inspector, Sewer Division.

Mr. D. E. McComb,  
Superintendent of Sewers, District of Columbia.

TABLE 10.—Amount of conduits laid from July 1, 1902, to June 30, 1903.

| No. of duct. | United States Electric Lighting Co. |              | Potomac Electric Power Co. |              | District of Columbia, <sup>a</sup> |              |
|--------------|-------------------------------------|--------------|----------------------------|--------------|------------------------------------|--------------|
|              | Conduit.                            | Duct.        | Conduit.                   | Duct.        | Conduit.                           | Duct.        |
|              | <i>Feet.</i>                        | <i>Feet.</i> | <i>Feet.</i>               | <i>Feet.</i> | <i>Feet.</i>                       | <i>Feet.</i> |
| 4 .....      | 9,964                               | 39,856       | 14,007                     | 56,028       | .....                              | .....        |
| 8 .....      | .....                               | .....        | 10                         | 80           | .....                              | .....        |
| 12 .....     | .....                               | .....        | 597                        | 7,164        | .....                              | .....        |
| 32 .....     | .....                               | .....        | 77                         | 2,464        | .....                              | .....        |
| Total.....   | 9,964                               | 39,856       | 14,691                     | 65,736       | .....                              | .....        |

| No. of duct. | United States Government. |              | Chesapeake and Potomac Telephone Co. |              | Total.       |              |
|--------------|---------------------------|--------------|--------------------------------------|--------------|--------------|--------------|
|              | Conduit.                  | Duct.        | Conduit.                             | Duct.        | Conduit.     | Duct.        |
|              | <i>Feet.</i>              | <i>Feet.</i> | <i>Feet.</i>                         | <i>Feet.</i> | <i>Feet.</i> | <i>Feet.</i> |
| 2 .....      | .....                     | .....        | 37,803                               | 75,606       | 37,803       | 75,606       |
| 4 .....      | 106                       | 424          | 39,970                               | 159,880      | 64,047       | 256,188      |
| 6 .....      | .....                     | .....        | 18,521                               | 111,126      | 18,521       | 111,126      |
| 8 .....      | .....                     | .....        | 14,297                               | 114,376      | 14,307       | 114,456      |
| 10 .....     | .....                     | .....        | 5,022                                | 50,220       | 5,022        | 50,220       |
| 12 .....     | .....                     | .....        | 3,253                                | 39,036       | 3,850        | 46,200       |
| 14 .....     | .....                     | .....        | 1,400                                | 19,600       | 1,400        | 19,600       |
| 16 .....     | .....                     | .....        | 779                                  | 12,464       | 779          | 12,464       |
| 20 .....     | .....                     | .....        | 1,381                                | 27,620       | 1,381        | 27,620       |
| 22 .....     | .....                     | .....        | 823                                  | 18,106       | 823          | 18,106       |
| 30 .....     | .....                     | .....        | 313                                  | 9,390        | 313          | 9,390        |
| 32 .....     | .....                     | .....        | .....                                | .....        | 77           | 2,464        |
| 72 .....     | .....                     | .....        | 42                                   | 3,024        | 42           | 3,024        |
| Total.....   | 106                       | 424          | 123,604                              | 640,448      | 148,365      | 746,464      |

<sup>a</sup> For amount of conduit laid by the District of Columbia, see electrical engineer's report.

NUMBER OF MANHOLES AND HANDHOLES BUILT.

|   | Manholes. | Handholes. |
|---|-----------|------------|
| United States Electric Lighting Co .....  | 25        | 38         |
| Chesapeake and Potomac Telephone Co. .... | 206       | .....      |
| Potomac Electric Power Co.....            | 58        | 152        |

SUMMARY OF CONDUITS CONSTRUCTED TO JUNE 30, 1903.

| No. of duct. | United States Electric Lighting Co. |              | Chesapeake and Potomac Telephone Co. |              | Potomac Electric Power Co. |              |
|--------------|-------------------------------------|--------------|--------------------------------------|--------------|----------------------------|--------------|
|              | Conduit.                            | Duct.        | Conduit.                             | Duct.        | Conduit.                   | Duct.        |
|              | <i>Feet.</i>                        | <i>Feet.</i> | <i>Feet.</i>                         | <i>Feet.</i> | <i>Feet.</i>               | <i>Feet.</i> |
| 1 .....      | 26, 177                             | 26, 177      | 15, 596                              | 15, 596      | 1, 557                     | 1, 557       |
| 2 .....      | 128, 223                            | 256, 446     | 42, 157                              | 84, 314      | 766                        | 1, 532       |
| 3 .....      | 236                                 | 708          | .....                                | .....        | .....                      | .....        |
| 4 .....      | 88, 296                             | 353, 184     | 40, 630                              | 162, 520     | 20, 053                    | 80, 212      |
| 6 .....      | 35, 461                             | 212, 766     | 41, 706                              | 250, 236     | 9, 488                     | 56, 928      |
| 7 .....      | .....                               | .....        | 82                                   | 574          | .....                      | .....        |
| 8 .....      | 11, 818                             | 94, 544      | 32, 387                              | 259, 096     | 8, 644                     | 69, 152      |
| 9 .....      | .....                               | .....        | 114                                  | 1, 026       | 7, 288                     | 65, 502      |
| 10 .....     | 88                                  | 880          | 5, 022                               | 50, 220      | .....                      | .....        |
| 12 .....     | 1, 491                              | 17, 892      | 8, 216                               | 98, 592      | 38, 576                    | 462, 912     |
| 13 .....     | .....                               | .....        | 212                                  | 2, 756       | 874                        | 4, 862       |
| 14 .....     | 1, 224                              | 17, 136      | 1, 400                               | 19, 600      | .....                      | .....        |
| 15 .....     | 68                                  | 1, 020       | .....                                | .....        | .....                      | .....        |
| 16 .....     | 2, 793                              | 44, 688      | 6, 604                               | 106, 664     | 1, 314                     | 21, 024      |
| 17 .....     | .....                               | .....        | 636                                  | 10, 812      | .....                      | .....        |
| 18 .....     | .....                               | .....        | 1, 576                               | 28, 368      | .....                      | .....        |
| 20 .....     | .....                               | .....        | 1, 407                               | 28, 140      | 85                         | 1, 700       |
| 22 .....     | .....                               | .....        | 823                                  | 18, 106      | .....                      | .....        |
| 24 .....     | 2, 435                              | 58, 440      | 2, 072                               | 49, 728      | .....                      | .....        |
| 25 .....     | .....                               | .....        | 304                                  | 7, 600       | .....                      | .....        |
| 28 .....     | 2, 049                              | 57, 372      | .....                                | .....        | .....                      | .....        |
| 30 .....     | 53                                  | 1, 590       | 313                                  | 9, 390       | .....                      | .....        |
| 32 .....     | .....                               | .....        | 485                                  | 15, 520      | 77                         | 2, 464       |
| 36 .....     | 3, 854                              | 138, 744     | 26                                   | 936          | .....                      | .....        |
| 40 .....     | .....                               | .....        | 1, 589                               | 63, 560      | .....                      | .....        |
| 44 .....     | .....                               | .....        | .....                                | .....        | 424                        | 18, 656      |
| 56 .....     | .....                               | .....        | 749                                  | 41, 944      | .....                      | .....        |
| 58 .....     | .....                               | .....        | .....                                | .....        | 7                          | 406          |
| 64 .....     | 106                                 | 6, 784       | 176                                  | 11, 264      | .....                      | .....        |
| 72 .....     | .....                               | .....        | 118                                  | 8, 496       | .....                      | .....        |
| Total.....   | 304, 372                            | 1, 288, 371  | 204, 400                             | 1, 344, 058  | 88, 653                    | 786, 997     |

| No. of duct. | Brightwood Rwy. Co. |              | District of Columbia.    |              | Private conduits |              |
|--------------|---------------------|--------------|--------------------------|--------------|------------------|--------------|
|              | Conduit.            | Duct.        | Conduit.                 | Duct.        | Conduit.         | Duct.        |
|              | <i>Feet.</i>        | <i>Feet.</i> | <i>Feet.<sup>a</sup></i> | <i>Feet.</i> | <i>Feet.</i>     | <i>Feet.</i> |
| 1 .....      | .....               | .....        | 6, 568                   | 6, 568       | 30               | 30           |
| 2 .....      | 13                  | 26           | 80                       | 160          | 227              | 454          |
| 4 .....      | .....               | .....        | 44                       | 176          | .....            | .....        |
| 6 .....      | .....               | .....        | 711                      | 4, 266       | .....            | .....        |
| 8 .....      | 176                 | 1, 408       | .....                    | .....        | .....            | .....        |
| Total.....   | 189                 | 1, 434       | 7, 403                   | 11, 170      | 257              | 454          |

| No. of duct. | Postal Telegraph and Cable Co. |              | United States Government. |              | Anacostia and Potomac River R. R. Co. |              | Capital Traction Co. |              |
|--------------|--------------------------------|--------------|---------------------------|--------------|---------------------------------------|--------------|----------------------|--------------|
|              | Conduit.                       | Duct.        | Conduit.                  | Duct.        | Conduit.                              | Duct.        | Conduit.             | Duct.        |
|              | <i>Feet.</i>                   | <i>Feet.</i> | <i>Feet.</i>              | <i>Feet.</i> | <i>Feet.</i>                          | <i>Feet.</i> | <i>Feet.</i>         | <i>Feet.</i> |
| 1 .....      | 13, 236                        | 13, 236      | .....                     | .....        | .....                                 | .....        | .....                | .....        |
| 2 .....      | .....                          | .....        | .....                     | .....        | .....                                 | .....        | 15, 742              | 31, 464      |
| 4 .....      | 1, 427                         | 5, 708       | 1, 357                    | 5, 428       | 176                                   | 704          | 8, 720               | 34, 880      |
| 6 .....      | .....                          | .....        | .....                     | .....        | .....                                 | .....        | 7, 320               | 43, 920      |
| 7 .....      | .....                          | .....        | .....                     | .....        | .....                                 | .....        | 29                   | 208          |
| 8 .....      | .....                          | .....        | .....                     | .....        | 159                                   | 1, 272       | 2, 761               | 22, 086      |
| 10 .....     | .....                          | .....        | .....                     | .....        | 245                                   | 2, 450       | .....                | .....        |
| 14 .....     | .....                          | .....        | .....                     | .....        | .....                                 | .....        | 4, 257               | 59, 506      |
| 22 .....     | .....                          | .....        | .....                     | .....        | .....                                 | .....        | 9, 109               | 200, 396     |
| 26 .....     | .....                          | .....        | .....                     | .....        | .....                                 | .....        | 280                  | 7, 240       |
| Total.....   | 14, 663                        | 18, 944      | 1, 357                    | 5, 428       | 580                                   | 4, 426       | 43, 218              | 399, 851     |

<sup>a</sup> This does not include conduits laid this year by District of Columbia (see electrical engineer's report).

SUMMARY OF CONDUITS CONSTRUCTED TO JUNE 30, 1903—Continued.

| No. of duct. | Metropolitan R. R. Co. |              | City and Suburban Rwy. Co. |              | Total.       |              |
|--------------|------------------------|--------------|----------------------------|--------------|--------------|--------------|
|              | Conduit.               | Duct.        | Conduit.                   | Duct.        | Conduit.     | Duct.        |
|              | <i>Feet.</i>           | <i>Feet.</i> | <i>Feet.</i>               | <i>Feet.</i> | <i>Feet.</i> | <i>Feet.</i> |
| 1            |                        |              |                            |              | 6,568        | 6,568        |
| 2            |                        |              |                            |              | 187,208      | 374,416      |
| 3            |                        |              |                            |              | 236          | 708          |
| 4            | 21,661                 | 86,644       | 11,040                     | 44,160       | 193,404      | 773,616      |
| 6            |                        |              | 5,117                      | 30,702       | 99,803       | 598,818      |
| 7            |                        |              |                            |              | 111          | 777          |
| 8            |                        |              | 13,248                     | 105,984      | 69,193       | 553,554      |
| 9            |                        |              |                            |              | 7,402        | 66,618       |
| 10           |                        |              | 8,080                      | 80,800       | 13,385       | 133,850      |
| 12           | 11,381                 | 136,572      | 77                         | 924          | 59,741       | 716,892      |
| 13           |                        |              |                            |              | 586          | 7,618        |
| 14           |                        |              | 1,880                      | 26,820       | 8,761        | 122,654      |
| 15           |                        |              |                            |              | 68           | 1,020        |
| 16           |                        |              |                            |              | 10,711       | 171,376      |
| 17           |                        |              |                            |              | 636          | 10,812       |
| 18           |                        |              | 2,214                      | 39,852       | 3,790        | 68,220       |
| 20           |                        |              |                            |              | 1,492        | 29,840       |
| 22           |                        |              | 134                        | 2,948        | 10,066       | 221,452      |
| 24           |                        |              |                            |              | 4,507        | 108,168      |
| 25           |                        |              |                            |              | 304          | 7,600        |
| 26           |                        |              |                            |              | 280          | 7,280        |
| 28           |                        |              | 87                         | 2,436        | 2,136        | 59,808       |
| 30           |                        |              |                            |              | 366          | 10,980       |
| 32           |                        |              |                            |              | 562          | 17,984       |
| 36           |                        |              |                            |              | 3,880        | 139,680      |
| 38           |                        |              | 193                        | 7,334        | 193          | 7,334        |
| 40           |                        |              |                            |              | 1,589        | 63,560       |
| 44           |                        |              |                            |              | 424          | 18,656       |
| 56           |                        |              |                            |              | 749          | 41,944       |
| 58           |                        |              |                            |              | 7            | 406          |
| 64           |                        |              |                            |              | 282          | 18,048       |
| 72           |                        |              |                            |              | 118          | 8,496        |
| Total        | 33,042                 | 223,216      | 42,020                     | 340,960      | 688,558      | 4,368,753    |

<sup>a</sup>These totals do not include amount of conduits laid this year by the District of Columbia.

REPORT OF THE INSPECTOR OF PLUMBING.

WASHINGTON, D. C., August 20, 1903.

SIR: I have the honor to submit the annual report of the work performed by this office for the fiscal year ending June 30, 1903.

The office was under the direction of Mr. O. L. Ingalls until December 1, 1902, when he resigned in order to accept a responsible position in Manila, and on that date I was appointed to the office made vacant by Mr. Ingalls's resignation.

INSPECTIONS.

During the fiscal year the total number of inspections made by this office was 25,298, being an increase of 2,677 over that of last year and 6,333 over that of the year previous.

These inspections, summarized, are as follows:

|  |       |
|--|-------|
| Examinations of existing plumbing of a preliminary nature      | 4,687 |
| Inspections of remodeling extensions and repairs to old houses | 7,640 |
| Inspections of plumbing in new buildings                       | 5,975 |
| Inspections of gas and gas fixtures                            | 1,293 |
| Inspections of lead water-service pipes                        | 759   |
| Inspections of new terra-cotta house sewers                    | 79    |
| Inspections of repairs to terra-cotta sewers                   | 702   |
| Peppermint tests   | 2,268 |
| Sewer taps into main sewers                                    | 905   |
| Notices served on owners and plumbers                          | 220   |
| Examination on complaint                                       | 770   |

The greatest number of inspections made by any one man was 4,781, which would average over 14 each day.

By consulting the old records on file in this office it is found that the number of inspections has increased materially since the record has been kept, and will show a



apprehended. In one instance the person supposed to be the owner denied ownership in court, and on account of inability to find owner the case was nol-prossed. In one instance personal bond was taken for violation of the plumbing act, making in all 16 cases nol-prossed.

#### REVOCATION OF PLUMBER'S LICENSE.

During the year it was necessary for the office to recommend that the license of 4 plumbers be taken from them—2 for failure to provide the required bond; 1 for dilatory, unsatisfactory, and improper methods pursued in doing his work, and because he violated the plumbing regulations; and the other for doing defective work and covering same without inspection.

#### THE NECESSITY FOR PERMITS FOR ALL PLUMBING WORK.

The office is handicapped in not being in touch with all plumbing work which is installed in houses, and in some cases even in making extensions of existing plumbing on premises within the lot lines. I am of the opinion that the office can prevent work from being done by unregistered plumbers and in an unsatisfactory manner if permits were required in all instances as they are in the building department, except in very minor repairs, as the office never has knowledge of such work unless the work is reported for inspections, judging from defective fixtures and work found in some instances.

Unregistered plumbers are therefore enabled to do inside work, as no permits are required nor inspection made, thus defeating the object of the plumbing office, whose function is to see that the plumbing regulations are not violated nor the public defrauded by unscrupulous men whose work is never inspected and who have had their licenses taken from them on account of violation of the plumbing regulations and for doing defective work.

This would entail extra work on both this office and the permit office of the engineer department; but I believe such a requirement would be a benefit to the public, and would enable this office to keep in touch with all plumbing work, and would protect the public and the registered plumbers who are bonded and licensed to abide by the requirements of the plumbing regulations. If such a requirement is made and the cooperation of the police department obtained, the plumber would be required to exhibit a permit to the police for all kinds of plumbing work, and would necessarily keep the office informed of the character of work installed and by whom performed.

There is one class of inspection in which this office could obtain better results in the work if additional men were provided, and that is, plumbing installed in large apartment houses, offices, hotels, etc., where a great amount of work is in place before the office is called upon to inspect same. During the interval between inspections a great amount of work is done, and often very badly run lines of piping are in place, and unless it is obviously defective and contrary to the regulations, this office has to pass same, while if additional men were provided and the assistant inspectors instructed to visit these buildings whenever they feel the necessity to do so, their experience will enable them to point out better methods to be used in making connections, which sometimes are installed by journeymen plumbers without the care which should be observed in doing such important work.

Such inspections are impossible with the present office force on account of the great increase of requests for inspections at a specified time by the registered plumbers. I regret to say that the plumbers are often caused serious delays and financial loss by the inability of the assistant inspectors to reach their work at the time specified by them, on account of the great amount of work they were called upon to inspect this last year, and the large territories covered by them, and also from the fact that the work is often scattered so that much time is consumed in going to the various jobs reported for inspection. It is not infrequent that they are compelled to work overtime in making the inspections that have been ordered for the day, which they have done without complaint.

#### SUBURBAN HOUSE DRAINAGE.

This office, in conjunction with the health office, is frequently required to consider the disposal of waste or drainage in houses erected and proposed to be erected in the suburbs, either by sewage-disposal fields, subsoil drains, or cesspools, where sewers are not available, and as no two cases are alike, the owners are required to submit drawings and a description of the system for approval by the Commissioners.

In most cases the owner in building his house wishes to rough in for the soil and



## REPORT OF THE INSPECTOR OF BUILDINGS.

WASHINGTON, August 26, 1903.

SIR: I have the honor to submit herewith the annual report covering the transactions of the building department for the fiscal year ending June 30, 1903, together with recommendations for the fiscal year ending June 30, 1905.

*Statement of permits issued from June 30, 1902, to July 1, 1903.*

|                                  | Num-ber. | Value.      |                           | Num-ber. | Value.     |
|----------------------------------|----------|-------------|---------------------------|----------|------------|
| Brick dwellings .....            | 938      | \$4,100,656 | Churches .....            | 6        | \$190,500  |
| Frame dwellings .....            | 172      | 301,637     | Stables (brick) .....     | 40       | 87,275     |
| Brick repairs .....              | 938      | 1,593,570   | Stables (frame) .....     | 17       | 6,355      |
| Frame repairs .....              | 506      | 117,466     | Carriage repository ..... | 1        | 9,000      |
| Apartment houses .....           | 40       | 2,646,500   | Hospital .....            | 1        | 70,000     |
| Stores and dwellings (brick) ..  | 4        | 22,000      | Workshops (brick) .....   | 2        | 4,000      |
| Stores and dwellings (frame) ..  | 1        | 2,500       | Workshop (frame) .....    | 1        | 500        |
| Office buildings (brick) .....   | 11       | 1,047,367   | Warehouses .....          | 7        | 53,950     |
| Banks .....                      | 1        | 65,000      | Wheelwright shop .....    | 1        | 2,000      |
| Store and assembly hall .....    | 1        | 45,000      | Range .....               | 1        | 1,000      |
| Store and apartment .....        | 3        | 52,000      | Ovens .....               | 3        | 874        |
| Store and office .....           | 3        | 33,659      | Greenhouses .....         | 2        | 740        |
| Stores .....                     | 17       | 198,350     | Observation stands .....  | 2        | 200        |
| Assembly hall .....              | 1        | 10,000      | Sheds (brick) .....       | 7        | 4,185      |
| Gymnasium .....                  | 1        | 6,500       | Sheds (frame) .....       | 525      | 26,317     |
| Elevators and electric motors .. | 89       | 271,415     | Minor repairs .....       | 3,251    | 82,251     |
| Engines, boilers, etc .....      | 66       | 140,846     | Awnings .....             | 130      | 9,750      |
| Gasoline tank .....              | 1        | 40          | Fire escapes .....        | 46       | 9,200      |
| Seminary .....                   | 1        | 40,000      |                           |          |            |
| Colleges or schools .....        | 4        | 875,000     | Total .....               | 6,841    | 11,584,603 |
| Hotel .....                      | 1        | 7,000       |                           |          |            |

*Comparative statement for years 1902-3.*

|                | New buildings. | Repairs. | Dwell-ings. | Apart-ments. |
|----------------|----------------|----------|-------------|--------------|
| 1903 .....     | 1,384          | 1,968    | 1,110       | 40           |
| 1902 .....     | 1,111          | 2,063    | 893         | 54           |
| Increase ..... | 273            | a 95     | 217         | a 14         |

a Decrease.

## Valuation of building operations:

|                |              |
|----------------|--------------|
| 1903 .....     | \$11,584,603 |
| 1902 .....     | 8,310,240    |
| Increase ..... | 3,274,363    |

## Number of permits issued, including buildings, repairs and minor repairs, awnings, engines and and boilers, etc.:

|                |       |
|----------------|-------|
| 1903 .....     | 6,408 |
| 1902 .....     | 5,727 |
| Increase ..... | 681   |

## Projections applied for .....

|  |     |
|--|-----|
| Inspections made, applications approved but not called for ..... | 550 |
| Inspections made, applications not approved .....                | 127 |
|  | 142 |

The following summary will show the distribution of improvements in the different sections of the District and the value of the same:

|                 | Buildings.  | Repairs.    |
|-----------------|-------------|-------------|
| Northwest ..... | \$5,304,932 | \$1,465,613 |
| County .....    | 3,482,781   | 135,954     |
| Northeast ..... | 598,081     | 32,881      |
| Southeast ..... | 296,275     | 61,609      |
| Southwest ..... | 114,000     | 41,276      |
| Total .....     | 9,796,069   | 1,737,333   |









I would therefore recommend that the small revenues of this office, amounting to about \$5,000 yearly, be intrusted to the auditor, or otherwise made available, as a means of executing the provisions of the law referring to dangerous buildings, and for temporary employment in emergencies of extra assistants, necessary to enforce the building regulations in the interest of public safety.

A portion of the above-mentioned amount should be made available for the purchase of implements for testing material, also for the purchase of a suitable wagon for transporting such implements and surveying instruments, used in leveling sites and laying out buildings. The carriage now in use is not suitable for conveying any heavy load or building materials desired at this or other buildings for test and is not arranged for safe transportation of delicate instruments. We are very much in need of a wagon with a flat bottom body and heavy springs, similar to a plumber's or painter's wagon, but light enough for inspection work by the inspector of buildings.

#### AMENDMENTS TO BUILDING REGULATIONS.

A few amendments have already been made to the regulations, but it is a continued complaint of builders and architects that frequent changes made from time to time without special notice keep them in a state of uncertainty, sometimes embarrassing them in the transaction of business with the owner, and requiring incessant application to this office for information not obtainable in the printed copies of the regulations in their possession.

I would therefore most earnestly request that printed copies of changes be sent to this office by the secretary of the Board of Commissioners for distribution, and would most respectfully recommend that certain dates be designated for changes, if possible, such as July 1 and January 1 of each year, and that all changes be advertised and distributed as near these dates as possible.

#### OFFICE FORCE.

The men in the office have worked earnestly and conscientiously with realization of the responsibilities placed upon them, and the clerical force give their services after the usual office hours in order to keep up the clerical work from day to day, and notwithstanding these efforts the work of the office is slightly behind with little prospect of completion before the winter months, when the building business is partially suspended. The clerical services required are of such a nature that I deem it but justice to recommend in the estimates for the fiscal year 1905 that their salaries be appropriately adjusted, and commend them for your consideration.

#### BUILDINGS COMPLETED.

The following buildings were completed during the present year:

Armstrong Manual Training School (boiler plant).  
Cells of new workhouse.  
Congress Heights engine house.  
McKinley Manual Training School (work not in former contract).  
Providence Hospital (work under former appropriation).  
Morgue wharf.  
Girls cottage, Industrial Home School.  
Deadhouse, Washington Asylum.

#### OTHER BUILDINGS AND WORK REPORTED.

The other buildings are in the following stages of construction or preparation:

Edmonds School, Ninth and D streets NE. (8 rooms), 97 per cent completed.  
Simmons School, Pierce street (8 rooms), 85 per cent completed.  
Wheatley School, Twelfth and N streets NE. (8 rooms), 78 per cent completed.  
Montgomery School, Twenty-seventh street, near K NW. (8 rooms), 74 per cent completed.  
Ludlow School, Sixth and G streets NE. (8 rooms), contract made.  
N. P. Gage School, Le Droit avenue (8 rooms), ready for proposals.  
Brookland School, Wallace and Lansing streets (increased to 8 rooms), 70 per cent completed.  
Takoma School, Takoma (increased to 8 rooms), award of contract recommended.  
Reconstructing Cranch School, Twelfth and G streets SE. (8 rooms), 80 per cent completed.  
Stanton School, Good Hope (4 rooms), 91½ per cent completed.  
Reno School, Howard and Emory streets (4 rooms), 73 per cent completed.



the numbering on a part of such streets from north to south and on another part from east to west, shall not be numbered by the general system but shall be numbered independently, beginning at the nearest point on such street to the Capitol and running to the end of the road or street, keeping the odd numbers on one side of the street and even numbers on the other side of the street."

I have the honor to append the reports of the principal assistant, the computer, assistant inspectors, and the assistant inspectors for elevators and fire escapes.

Very respectfully,

SNOWDEN ASHFORD,  
Inspector of Buildings.

Maj. JOHN BIDDLE,  
Corps of Engineers, U. S. Army,  
Engineer Commissioner District of Columbia.  
(Through Capt. Chester Harding.)

*Statement showing in detail the number of persons other than day laborers who were employed on regular and continuous work for thirty days or more during the fiscal year ended June 30, 1903, under authority of and paid from general appropriations.*

Superintendents of construction—Schoolhouses, workhouse, engine house, police stations, morgue wharf:

|                            |         |
|----------------------------|---------|
| Five superintendents ..... | \$4. 00 |
| Nine superintendents ..... | 3. 50   |
| Three draftsmen .....      | 3. 00   |

I certify that the above-mentioned employees rendered service as superintendents and draftsmen, respectively, in supervising and preparing plans for the District buildings aforesaid, and were paid from the several appropriations for work on which they were employed.

Very respectfully,

SNOWDEN ASHFORD,  
Inspector of Buildings.

WASHINGTON, D. C., August 20, 1903.

SIR: I have the honor to submit herewith a report covering the construction work carried on by this department during the last year.

Nine contracts have been completed and accepted during the year, and we have now under contract 11 buildings, with plans and specifications and, in some instances, bids in hand for 13 other structures, which practically covers all appropriations available for this department.

While exercising my duties in the capacity of principal superintendent of construction I made numerous observations on the several styles of construction used in the school buildings, and as a result I can make no stronger argument as to what the general treatment should be than to indorse thoroughly the very interesting excerpt from the report of the schoolhouse department of Boston, which says:

"The new schoolhouses about to be erected should be plain, substantial structures, built in the most substantial manner, devoid of unnecessary or extravagant ornamentation, but attractive and tasteful from an architectural standpoint. The exterior walls to be in general of plain red brick, with a reasonable amount of granite or sandstone trimmings, and the interior fittings such as will meet the requirements of durability and fitness for the several purposes for which they are intended without being unnecessarily expensive."

In connection with the above paragraph I take the liberty of suggesting that the following memorandum be furnished architects commissioned with District work:

**Rooms.**—Class rooms should be from 24 to 26 feet wide and from 32 to 34 feet long. Cloakrooms adjoining and approximating 5 feet wide. Office, library, teacher's room and teacher's lavatory should be provided. Ceilings from 12 to 14 feet high. In the four and eight room buildings, which are recommended for administrative purposes, the rooms should be grouped around a central unobstructed hall.

**Doors.**—Entrance doors should each be 2 feet 6 inches by 7 feet solid, recessed to protect from weather or be double hung; vestibule doors same size, of skeleton frame, covered with fabric, or light panel doors, double hung. Interior double doors throughout, each 2 feet 3 inches for classrooms and 1 foot 9 inches for cloakrooms; all with glass panels; no transoms. No doors between classrooms and cloakrooms.

**Windows** arranged for rear and left hand lighting, with the greater number on the left side. They will contain not less than one-fifth of floor area.

**Floors** will be of Georgia pine rift or maple.

**Walls** finished in cream sand plaster floated up.

**Ceilings** to have hard white finish plaster.



*Descriptive schedule of buildings erected by the building department.*

| Built.   | Name and location.  | Cost.    | Cubical contents. | Cost per cubic foot. | Description.                | Architect.              |
|----------|---|----------|-------------------|----------------------|-----------------------------|-------------------------|
|          |   |          | <i>Feet.</i>      | <i>Cents.</i>        |                             |                         |
| 1897.... | Payne School, Fifteenth and C streets SE.                                     | \$21,266 | 308,382           | 6.9                  | 8-room, red brick.          | Inspector of buildings. |
| 1897.... | Langdon School, Langdon.  | 6,625    | 112,832           | 5.8                  | 4-room, frame ....          | Do.                     |
| 1897.... | Greenleaf School, Four-and-a-half, between M and N streets SW.                | 22,858   | 349,492           | 6.5                  | 8-room, red brick.          | Do.                     |
| 1897.... | Douglass School, First and Pierce streets NW.                                 | 24,921   | 349,492           | 7.1                  | .....do .....               | Do.                     |
| 1897.... | Hayes School, Fifth and K streets NE.   | 27,831   | 351,840           | 7.9                  | .....do .....               | Do.                     |
| 1897.... | Anthony Bowen School, Ninth and E streets SW.                                 | 25,202   | 315,560           | 7.6                  | .....do .....               | Do.                     |
| 1898.... | Bruce School, Marshall street and Sherman avenue NW.                          | 27,675   | 297,216           | 9.3                  | .....do .....               | William M. Poindexter.  |
| 1898.... | Engine House No. 14, Eighth street, between D and E, NW.                      | 11,277   | 108,078           | 10.4                 | 12-room, red brick.         | F. B. Pyle.             |
| 1898.... | Administration building, Industrial Home School.                              | 29,000   | 312,840           | 9.2                  | 30-room, red brick.         | Inspector of buildings. |
| 1898.... | Hilton School, Sixth, between B and C streets NE.                             | 27,999   | 294,408           | 9.6                  | 8-room, red brick.          | W. J. Marsh.            |
| 1898.... | Engine House No. 15, Anacostia.   | 11,318   | 119,609           | 9.5                  | 12-room, red brick.         | Inspector of buildings. |
| 1898.... | Western High School, Thirty-fifth and T streets NW.                           | 100,544  | 875,104           | 11.5                 | 30-room, buff brick         | Do.                     |
| 1898.... | Eckington School, First and Quincy streets NE.                                | 27,278   | 353,722           | 7.7                  | 8-room, red brick.          | A. P. Clark, jr.        |
| 1898.... | Toner School, Twenty-fourth and F streets NW.                                 | 27,753   | 267,455           | 10.2                 | .....do .....               | Hornblower & Marshall.  |
| 1898.... | Chevy Chase School, Connecticut avenue extended.                              | 9,113    | 117,260           | 7.7                  | 4-room, frame stucco.       | Inspector of buildings. |
| 1898.... | Isolation building, Providence Hospital.                                      | 24,775   | 180,880           | 13.7                 | 23-room, red brick          | E. W. Donn, jr.         |
| 1899.... | Nurses' Home, Washington Asylum.  | 5,725    | 68,160            | 8.4                  | 19-room, frame ....         | Inspector of buildings. |
| 1899.... | Hubbard School, Kenyon, between Eleventh and Twelfth streets NW.              | 34,375   | 287,040           | 12.3                 | 8-room, red brick.          | Fuller & Garrett.       |
| 1899.... | Almshouse Wing, Washington Asylum.  | 13,885   | 86,151            | 13.9                 | 12-room, red brick          | Inspector of buildings. |
| 1899.... | Truck House E, Thirty-fourth and S streets NW.                                | 16,509   | 106,440           | 15.4                 | 10-room, red brick          | L. E. Dessez.           |
| 1899.... | Girls' Reform School, Conduit road.   | 45,836   | 298,656           | 15.3                 | 79-room, red brick          | J. G. Hill.             |
| 1900.... | Dent School, South Carolina avenue and Second street SE.                      | 36,442   | 326,294           | 11.2                 | 8-room, red brick.          | P. J. Pelz.             |
| 1900.... | Chemical Engine No. 3, Tenleytown road.                                       | 16,892   | 106,752           | 15.8                 | 8-room, buff brick          | L. E. Dessez.           |
| 1900.... | Webb School, Fifteenth and Rosedale streets NE.                               | 35,392   | 296,000           | 11.9                 | 8-room, red brick.          | Glenn Brown.            |
| 1900.... | Birney School, Anacostia.   | 36,585   | 295,750           | 12.0                 | .....do .....               | C. L. Harding.          |
| 1900.... | Truck house F, Whitney avenue, between Thirteenth and Fourteenth streets NW.  | 16,361   | 106,840           | 15.3                 | 8-room dark-mottled brick.  | L. E. Dessez.           |
| 1900.... | Takoma School, Takoma Park.   | 21,276   | 169,475           | 12.5                 | 4-room frame, stucco.       | W. J. Palmer.           |
| 1901.... | Lovejoy School, Twelfth and D streets NE.                                     | 34,693   | 308,850           | 11.2                 | 8-room buff-mottled brick.  | Robert Stead.           |
| 1901.... | Police station No. 10, Whitney avenue, between Seventh and Eighth streets NW. | 23,838   | 156,660           | 15.2                 | 18-room red brick.          | A. B. Mullett & Co.     |
| 1901.... | Sayles J. Bowen School, Third and K streets SW.                               | 37,787   | 285,300           | 13.2                 | 8-room white-mottled brick. | Robert Stead.           |





had to be devised, and in every instance these appliances have proven successful. It is also a matter for congratulation that, although some of the tests have been prosecuted under extremely dangerous conditions, there has not been a single accident from this cause.

Eighth. I have required and directly conducted such tests of patent floor and sidewalk construction as the peculiarities of the individual case demanded and without accident.

The very great necessity for and the importance of such tests can not be overestimated, nor can the (in many cases extreme) danger to those directly conducting such tests be ignored.

Ninth. The necessity for settlement tests are infrequent; the few, however, that I have conducted during the year have required, from the very peculiar conditions prevailing, the utmost delicacy and nicety of manipulation, and have taken up much valuable time.

Tenth. There has been an undoubted improvement in the construction and equipment of the derricks, cranes, overhead travelers and other hoisting apparatus during the year. There being no regulations covering this most important point, I have had to use moral suasion and convincing argument to gain the ground I have, and am pleased to report a better type of construction, a better type of mechanical equipment, an incomparably better system, type, and quality of rigging, and a distinct advance in the quality of material used, in several instances having had wood and cast iron replaced by steel construction.

While thanking you for your esteemed cooperation, and your corps of assistants for their kindly consideration, the fact exists that it would have been quite impossible for any one man to have accomplished what I have done had I not voluntarily extended my hours far beyond the usual day.

At one time for eight consecutive weeks, during the latter part of the fiscal year, my days started at 7 a. m. and terminated at 11 p. m., with short intermissions for meals and while on the cars between this office and my home, practically doubling the official day. Professional pride, to keep the work of my office up to a fair standard of excellence, the interest of the public and, above all, the safety of the public, have been the causes that have led me in many instances to entirely sacrifice all personal interest and comfort, and as a result we have had neither accident nor calamity to mar the history of the year.

Very respectfully,

C. W. SOMMERVILLE,  
*Computer, Building Department.*

SNOWDEN ASHFORD,  
*Inspector of Buildings, Washington, D. C.*

WASHINGTON, D. C., July 12, 1903.

DEAR SIR: We have the honor to submit the following report of our official duties as assistant inspectors of buildings during the fiscal year ending June 30, 1903:

|   |         |
|---|---------|
| Visits to new buildings .....                     | 23, 577 |
| Visits to old buildings .....                     | 6, 749  |
| Visits of miscellaneous character .....           | 4, 512  |
| Total, 1903.....                                  | 34, 838 |
| Total, 1902.....                                  | 33, 787 |
| Increase .....                                    | 1, 051  |
| Condemnations of buildings or parts thereof ..... | 824     |
| Condemnations of dilapidated buildings .....      | 51      |
| Number of buildings renumbered .....              | 131     |

The increase in the number of inspections, as compared to the number made in the previous year, does not represent the actual increase in the amount of work performed by your assistants in the field. The amount and importance of the work performed will be better understood by a comparison of the character and cost of building for the fiscal year ended, as compared with that of the previous year. The records show an increase of about 34 per cent in cost.

During the year a number of large office, apartment, and other buildings of a private character have been erected. These buildings are larger in size and more modern in construction than those erected during any previous year.

A large per cent of the building operations for the year have been outside the city proper, in the county and in widely separated districts, involving an extra amount of travel on the part of your assistants.

The supervision and inspection of stands constructed for the review of the parade and ceremonies incident to the encampment of the G. A. R. in October, 1902, made it absolutely necessary to temporarily increase the field force by the transfer of sev-







# OPERATIONS OF THE ENGINEER DEPARTMENT, D. C. 98

as far as possible the amounts allowed each building, and in a general way described the character of the work completed.

| Name of school.          | Amount<br>ex-<br>pended. | Name of school.                    | Amount<br>ex-<br>pended. |
|--------------------------|--------------------------|------------------------------------|--------------------------|
| <b>First division:</b>   |                          | <b>Seventh division—Continued.</b> |                          |
| Adams .....              | \$850.54                 | Chevy Chase .....                  | \$68.16                  |
| Berret .....             | 192.15                   | Hamilton .....                     | 115.91                   |
| Dennison .....           | 1,046.21                 | Langdon .....                      | 89.63                    |
| Force .....              | 871.23                   | Monroe .....                       | 271.72                   |
| Franklin .....           | 4,445.38                 | Takoma .....                       | 450.74                   |
| Harrison .....           | 320.54                   | Tenley .....                       | 568.74                   |
| Hubbard .....            | 440.44                   | Mott .....                         | 289.75                   |
| Johnson .....            | 283.68                   | Woodburn .....                     | 218.63                   |
| Johnson Annex .....      | 218.18                   | Brightwood (colored) .....         | 49.58                    |
| Phelps .....             | 725.45                   | Bruce .....                        | 227.14                   |
| Thompson .....           | 214.18                   | Wilson .....                       | 441.87                   |
| Morgan .....             | 58.06                    | Bunker Hill .....                  | 86.66                    |
| <b>Total</b> .....       | <b>8,662.04</b>          | Grant Road .....                   | 76.88                    |
| <b>Second division:</b>  |                          | Ivy City .....                     | 192.43                   |
| Abbot .....              | 344.46                   | Petworth .....                     | 49.67                    |
| Eckington .....          | 249.87                   | Chain Bridge .....                 | 66.31                    |
| Henry .....              | 338.13                   | <b>Total</b> .....                 | <b>3,588.13</b>          |
| Morse .....              | 305.90                   | <b>Eighth division:</b>            |                          |
| Polk .....               | 202.91                   | Buchanan .....                     | 221.94                   |
| Seaton .....             | 613.91                   | Cranch .....                       | 134.28                   |
| Twining .....            | 663.14                   | Taylor .....                       | 474.64                   |
| Webster .....            | 256.30                   | .....                              | 96.16                    |
| Emery .....              | 94.22                    | .....                              | 105.58                   |
| <b>Total</b> .....       | <b>3,115.34</b>          | .....                              | 85.48                    |
| <b>Third division:</b>   |                          | .....                              | 289.83                   |
| Brent .....              | 360.46                   | .....                              | 190.75                   |
| Carbery .....            | 726.51                   | .....                              | 442.01                   |
| Dent .....               | 294.65                   | .....                              | 165.43                   |
| Hilton .....             | 606.13                   | .....                              | 220.85                   |
| Lenox .....              | 354.26                   | Burruille .....                    | 205.55                   |
| Maury .....              | 345.95                   | Garfield .....                     | 192.45                   |
| Peabody .....            | 476.43                   | Hilldale .....                     | 216.83                   |
| Towers .....             | 548.02                   | Kenilworth .....                   | 10.50                    |
| Wallach .....            | 1,415.49                 | <b>Total</b> .....                 | <b>3,081.78</b>          |
| <b>Total</b> .....       | <b>5,127.90</b>          | <b>Ninth division</b>              |                          |
| <b>Fourth division:</b>  |                          | Briggs .....                       | 137.54                   |
| Amidon .....             | 288.47                   | Garrison .....                     | 427.24                   |
| Arthur .....             | 478.59                   | Magruder .....                     | 557.84                   |
| Bradley .....            | 685.97                   | Phillips .....                     | 181.49                   |
| Greenleaf .....          | 182.01                   | Stevens .....                      | 183.89                   |
| Jefferson .....          | 1,700.19                 | Sumner .....                       | 416.46                   |
| Potomac .....            | 75.54                    | Wormley .....                      | 228.58                   |
| Smallwood .....          | 361.61                   | Minor .....                        | 19.23                    |
| S. J. Bowen .....        | 78.15                    | <b>Total</b> .....                 | <b>2,252.07</b>          |
| McCormick .....          | 214.72                   | <b>Tenth division:</b>             |                          |
| <b>Total</b> .....       | <b>4,065.25</b>          | Banneker .....                     | 178.88                   |
| <b>Fifth division:</b>   |                          | Douglas .....                      | 399.13                   |
| Addison .....            | 292.46                   | Garnett .....                      | 400.45                   |
| Conduit road .....       | 83.12                    | Cook .....                         | 589.67                   |
| Corcoran .....           | 300.75                   | Jones .....                        | 372.85                   |
| Curtis .....             | 324.39                   | Logan .....                        | 594.37                   |
| Fillmore .....           | 251.04                   | Patterson .....                    | 279.47                   |
| Grant .....              | 1,362.80                 | Slater .....                       | 524.17                   |
| High Street .....        | 59.43                    | Langston .....                     | 94.44                    |
| Jackson .....            | 772.61                   | <b>Total</b> .....                 | <b>3,637.83</b>          |
| Reservoir .....          | 151.12                   | <b>Eleventh division:</b>          |                          |
| Threlkeld .....          | 78.88                    | Ambush .....                       | 813.49                   |
| Toner .....              | 192.92                   | A. Bowen .....                     | 254.61                   |
| Weightman .....          | 200.64                   | Bell .....                         | 469.22                   |
| <b>Total</b> .....       | <b>4,640.11</b>          | Giddings .....                     | 337.09                   |
| <b>Sixth division:</b>   |                          | Lincoln .....                      | 903.46                   |
| Blair .....              | 210.51                   | Lovejoy .....                      | 151.55                   |
| Blake .....              | 609.87                   | Payne .....                        | 518.45                   |
| Gales .....              | 258.78                   | Randall .....                      | 192.95                   |
| Hayes .....              | 514.43                   | Syphax .....                       | 108.78                   |
| Madison .....            | 230.55                   | <b>Total</b> .....                 | <b>3,859.60</b>          |
| Pierce .....             | 393.54                   | <b>Central High</b> .....          |                          |
| Taylor .....             | 576.58                   | Western High .....                 | 1,576.02                 |
| Webb .....               | 350.17                   | Eastern High .....                 | 1,836.38                 |
| <b>Total</b> .....       | <b>3,394.43</b>          | Business High .....                | 667.78                   |
| <b>Seventh division:</b> |                          | M Street High .....                | 353.58                   |
| Brightwood .....         | 155.09                   | McKinley Manual Training .....     | 1,082.91                 |
| Brookland .....          | 224.72                   | Armstrong Manual Training .....    | 24.50                    |
|                          |                          |                                    | 1,082.91                 |



*Tinning.*—New tin roofs were put on Nos. 10 and 12, and new valley on trucks B and C.

*Plumbing.*—New plumbing was installed at Nos. 1, 2, 4, 5, Truck Companies A, B, and D, also in engine houses Nos. 8, 12, and 14.

REPAIRS TO POLICE STATIONS, 1903.

[Appropriation, \$5,000.]

|                    |          |                     |          |
|--------------------|----------|---------------------|----------|
| Station No. 1..... | \$517.55 | Station No. 7.....  | \$465.70 |
| Station No. 2..... | 218.74   | Station No. 8.....  | 834.17   |
| Station No. 3..... | 166.93   | Station No. 9.....  | 776.59   |
| Station No. 4..... | 628.12   | Station No. 10..... | 245.29   |
| Station No. 5..... | 29.78    | Substation .....    | 29.55    |
| Station No. 6..... | 455.41   |                     |          |

SUMMARY.

|                                      |            |
|--------------------------------------|------------|
| Amount accounted for .....           | \$4,667.83 |
| Office salaries .....                | 114.00     |
| Material purchased and on hand ..... | 32.90      |
| Miscellaneous .....                  | 185.27     |
| Total .....                          | 5,000.00   |

The police stations are all in a good state of repair, the appropriation being about sufficient for the number of houses now in service. The work done in the department consisted of carpentering, tinning, plumbing, and steam fitting, viz:

*Carpentering.*—Floors were laid and renewed at stations Nos. 1, 4, 7, and 8.

*Painting.*—Station No. 1, windows, doors, and blinds; Station No. 8, all exterior painted and penciled; Station No. 9, interior painted.

*Tinning.*—Station No. 7, new tin roof put on.

*Plumbing.*—Stations Nos. 4 and 9, new plumbing installed.

REPAIRING AND RENEWING HEATING AND VENTILATING APPARATUS; SCHOOLS, 1903.

[Appropriation, \$12,000.]

SUMMARY.

|   |         |
|---|---------|
| Gas engines and fans.....                                       | \$6,138 |
| New furnaces in Woodburn, Chevy Chase, and Langdon schools..... | 1,810   |
| Repairs to heating apparatus .....                              | 3,710   |
| Office salaries .....   | 342     |
| Total .....   | 12,000  |

There were nine gas engines and fans installed for the better ventilation of the buildings in which they were placed. The installation of the engines and fans were in the following-named schools, viz: Morse, Twining, Brent, Maury, Amidon, Blair, Wormley, Banneker, and Cook.

In addition to the installation of engines and fans there were six furnaces installed, two in each of the following buildings, viz: Woodburn, Chevy Chase, and Langdon schools.

REPAIRS TO MARKET HOUSES.

[Appropriation \$2,250.]

SUMMARY.

|                         |            |
|-------------------------|------------|
| Western market.....     | \$1,195.75 |
| Eastern market .....    | 666.68     |
| Georgetown market ..... | 302.57     |
| Office salaries .....   | 85.00      |
| Total.....              | 2,250.00   |

The Western and Eastern market houses are in a fair state of repair. The exterior of both were painted and in the Western market a new closet was installed, which adds greatly to the convenience of its patrons. At the Eastern market house the wainscoting back of the fish stalls was torn out and replaced by cement, making a much-needed improvement. The ceiling and gas pipes of the Georgetown market house was painted.

In addition to the repairs and improvements made under the above appropriations,

this department completed a large amount of work on other municipal buildings; included among these were the smallpox hospital, Industrial Home School, District of Columbia building, disinfectant plant, house of detention, ambulance stables, and the erection of a reviewing stand in front of the White House.

Respectfully,

G. B. COLEMAN,  
*Superintendent of Repairs.*

Maj. JOHN BIDDLE,  
*(Corps of Engineers, U. S. Army,  
Engineer Commissioner, District of Columbia.  
(Through Capt. Chester Harding.)*

*Statement showing in detail the number of persons, other than day laborers, who were employed on regular and continuous work during the fiscal year ended June 30, 1904, under authority of and paid from general appropriations.*

| Repair appropriations:          | Per day. |
|---------------------------------|----------|
| Superintendent of repairs ..... | \$5.00   |
| Clerk .....                     | 3.50     |
| Foreman .....                   | 4.00     |
| 2 foremen, at .....             | 3.50     |
| Bench carpenter .....           | 3.25     |
| Driver .....                    | 2.50     |
| Do .....                        | 1.50     |

#### REPORT OF THE INSPECTOR OF ASPHALT AND CEMENTS.

WASHINGTON, D. C., August 15, 1903.

SIR: I have the honor to submit the following report of the work done in this office during the fiscal year ending June 30, 1903.

The work of testing may be summarized as follows:

|  |       |                                      |       |
|--|-------|--------------------------------------|-------|
| Hydraulic cements:                       |       | Coal tar .....                       | 1     |
| Natural, brands 4, samples .....         | 934   | Gasolines .....                      | 1     |
| Portland, brands 8, samples .....        | 6,794 | Gravels .....                        | 6     |
| Asphalts:                                |       | Oils .....                           | 11    |
| Trinidad, crude, 3 cargoes, samples .... | 7     | Paints .....                         | 1     |
| Trinidad, refined, samples .....         | 6     | Residuum oils .....                  | 23    |
| Burmudez .....                           | 2     | Roofing .....                        | 1     |
| Cuban, crude .....                       | 2     | Sands .....                          | 11    |
| Cuban, refined .....                     | 2     | Sealing wax .....                    | 1     |
| Asphaltic cements, samples .....         | 231   | Stone .....                          | 3     |
| Asphaltic surface mixtures .....         | 137   | Thermometers .....                   | 12    |
| Pavements .....                          | 14    | Water .....                          | 9     |
| Miscellaneous asphalts .....             | 50    | Miscellaneous experiments, etc ..... | 5     |
| Cement mortars .....                     | 5     |                                      |       |
| Cinder .....                             | 2     | Total .....                          | 3,239 |
| Coal .....                               | 1     |                                      |       |

#### HYDRAULIC CEMENTS.

The number of barrels inspected and the average results of tests of each brand of cement will be found in the following tables:

*Natural cements.*—The 934 samples represent 9,197 barrels, of which 900 were rejected.

*Natural cements.*



PORTLAND CEMENTS.

The 6,794 samples of Portland cement represent 67,672 barrels, of which 10,446 were rejected.

*Portland cements.*

\* Test samples.

ASPHALT PAVEMENTS.

*Sheet asphalt.*—The contract for paving with sheet asphalt during the past fiscal year was awarded to the Barber Asphalt Paving Company. As this company had no asphalt on hand at the time of awarding of this contract that was not acted upon by water, it requested that the Commissioners allow it to lay Trinidad asphalt on a concrete base which had been made impervious to water by painting it with Bermudez asphalt dissolved in naphtha. This permission was granted, and all streets done in the fall and winter were constructed in this way. On beginning the work in the spring this company instituted the use of Bermudez asphalt, which passed the specifications satisfactorily.

*Asphalt block.*—The contract for paving with asphalt block in this city was awarded to the Washington Asphalt Block and Tile Company. This company imports and refines asphalt from the lake deposit at Trinidad. The asphalt paving cement used in its block during the past year has been made of Trinidad asphalt, fluxed with oxidized petroleum residuum, a product known on the market as byerlite. This flux was used in such quantities as to so reduce the quantity of Trinidad asphalt in the paving cement that it was much less acted on by water, and at the same time the quality of the cement was greatly improved for this character of pavement.

*Crude Trinidad asphalt.*—During the past year 7 samples were examined, which showed an average of 52.62 per cent bitumen soluble in carbon disulphide.

*Petroleum residuum.*—Under this heading are included all fluxes used for the softening of asphalts into paving cements. Of the 20 samples of fluxes examined, 18 have been for the Barber Asphalt Paving Company and 2 for the Cranford Paving Company. The Barber Asphalt Paving Company used a flux manufactured by the Standard Oil Company, it being a residue from Beaumont, Tex., petroleum oil. The two samples of oil submitted by the Cranford Paving Company were the same as those for the Barber Asphalt Paving Company.

*Asphalt cements.*—The results of the tests made on asphalt cements submitted by the various paving companies during the past year will be found in the following table:

Table showing penetrations of asphalt topping cement and binder during fiscal year ending June 30, 1903.

|                               | Asphalt topping cement. |              |          |           | Asphalt binder cement. |              |          |           |
|-------------------------------|-------------------------|--------------|----------|-----------|------------------------|--------------|----------|-----------|
|                               | Number of samples.      | Penetration. |          |           | Number of samples.     | Penetration. |          |           |
|                               |                         | High-est.    | Low-est. | Aver-age. |                        | High-est.    | Low-est. | Aver-age. |
| Barber Asphalt Paving Co.:    |                         |              |          |           |                        |              |          |           |
| Bermudez .....                | 13                      | 60           | 46       | 52        | 5                      | 101          | 64       | 81        |
| Trinidad .....                | 9                       | 65           | 48       | 49        | 11                     | 80           | 47       | 70        |
| Brennan Construction Co. .... | 4                       | 64           | 46       | 49        | 2                      | 85           | 58       | 71        |
| Cranford Paving Co. ....      | 94                      | 56           | 37       | 47        | 98                     | 125          | 86       | 94        |



being a true liquid possesses the greater adhesiveness. This is true not alone from observation, but is evident when we examine into why a bituminous cement is adhesive. The property of adhering is not chemical but purely mechanical, and the more fluid the cement is the more completely and perfectly will it flow into every cavity of the surface in which it is in contact, thus producing a more perfect bond or adhesion.

It must not be inferred from the above remarks that the cement which approaches more closely to the true liquid, and for this reason is more adhesive, is the more desirable for asphalt construction. This is not the case, for cements as they approach the condition of being perfect liquids are, as a rule, found to be more susceptible to changes in temperature, that is, more brittle in the cold and more softened by heat.

Besides these physical properties, the asphaltic cement must be able to withstand the heating to which it will be subjected in the process of manufacture into pavement, without having its physical properties materially changed, and must not be rapidly hardened, or so changed by age, as to lose its ductility and pliability in an unreasonably short period of time.

In the present specifications I have made a decided departure from all former ones, and entirely omitted anything relating to the asphalt or flux which is combined to make the asphaltic cement, and specify only physical tests on the finished asphaltic cement, which will indicate the properties, within the desirable limits that have just been mentioned. The specifications adopted for the asphaltic cement are as follows:

*Asphalt cement.*—The asphaltic cement must be practically free from water, and must be within the range of 40 and 70 penetration when tested at 77° F., the amount of penetration to be fixed by the Engineer Commissioner.

Preference will be given to an asphaltic cement that is not readily affected by the action of water, provided it is satisfactory in other respects. If an asphaltic cement is accepted that is affected by water, some provision satisfactory to the Engineer Commissioner must be made to guard against the results of such action, and such work must be included in the price bid.

The bitumen of the asphaltic cement must comply with the following tests:

1. It must be of such a consistency that when tested at 32° F. it will not show a hardness below 10 penetration, and when tested at 115° F. it will not be softer than 350 penetration.

2. When a prism of the bitumen 1 centimeter square and 5 centimeters long is tested for ductility at 77° F. it must draw out to a distance of 20 centimeters before breaking.

3. When the bitumen is heated in an open tin at a temperature of 300° F. for eighteen hours in a hot-air oven it must not show a loss by volatilization of over 5 per cent, and it must not have been hardened over 50 per cent by this heating.

The asphaltic cement must never be heated to a temperature that will injure it.

When the asphaltic cement contains over 5 per cent of material that will separate by subsidence while in a molten condition, it must be thoroughly agitated before drawing from storage, and while in use in the supply kettles, so as to insure a uniform cement.

These tests shall be made by uniform methods, descriptions of which are on file in the office of the Engineer Commissioner.

It is my belief that these specifications cover all asphaltic cements that have been offered for paving and that are desirable. They do not, however, cover all hypothetical cases; for instance, an asphalt might be met with which, though passing the requirements of these specifications for ductility, would be too lacking in this property at temperatures lower than 77° F. Another point that might be raised is that they apparently specify no test to determine the rapidity of the aging of the asphaltic cement. But I have found it invariably to be the rule that the cement passing the requirements of the test for the amount of hardening resulting from heating in an open tin at 300° F. for eighteen hours does not objectionably harden or dry out on aging. I feel, however, that they would be more complete and satisfactory if they met every conceivable case, and believe, without doubt, that specifications can be made in time that will do this, after further experience with tests that are being made.

Very respectfully,

A. W. Dow,  
*Inspector of Asphalts and Cements.*

Maj. JOHN BIDDLE,

*Corps of Engineers, U. S. Army,*

*Engineer Commissioner, District of Columbia.*

(Through Capt. H. C. Newcomer.)





## 102 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

STATEMENT NO. 1.—Showing amount of construction material purchased for issue from the District of Columbia property yards during the year ending June 30, 1903.

STATEMENT NO. 2.—Showing miscellaneous purchases made during the year ending June 30, 1903.

|                                       |           |   |             |
|---------------------------------------|-----------|---|-------------|
| Awnings purchased and repaired .....  | \$9.00    | Lumber .....                              | \$19,861.75 |
| Accountant, registering .....         | 250.00    | Leather, straps .....                     | 54.00       |
| Aquaphone .....                       | 4.20      | Matting, rubber .....                     | 62.20       |
| Badges, and repairs to .....          | 17.00     | Mixer, concrete .....                     | 225.00      |
| Barrels .....                         | 20.50     | Maps .....                                | 141.30      |
| Beams, I. ....                        | 88.44     | Oils, illuminating, engine, etc .....     | 2,927.29    |
| Blank forms, printing and binding ... | 2,897.06  | Paints, glass, and oil .....              | 3,978.90    |
| Books, made to order .....            | 898.63    | Photographic supplies .....               | 146.51      |
| Blocks pulley .....                   | 119.94    | Pitch .....                               | 1,323.08    |
| Blueprints .....                      | 416.46    | Plows, and repairs to .....               | 280.10      |
| Boots, rubber .....                   | 188.10    | Plumbers' supplies .....                  | 3,277.56    |
| Castings .....                        | 4,652.88  | Patterns for castings .....               | 59.75       |
| Chemist's supplies .....              | 183.06    | Quartz .....                              | 15.77       |
| Cars, platform .....                  | 430.00    | Saddlery .....                            | 651.28      |
| Cement, asphalt .....                 | 74.00     | Sand (special) .....                      | 3.30        |
| Clocks .....                          | 2.50      | Screenings, limestone .....               | 126.11      |
| Cots .....                            | 8.00      | Sills, stone .....                        | 19.68       |
| Drafting materials .....              | 312.62    | Slate .....                               | 130.00      |
| Drugs .....                           | 261.81    | Seed, grass .....                         | 73.09       |
| Dry goods .....                       | 67.53     | Stationery .....                          | 1,716.91    |
| Derricks .....                        | 140.00    | Surveyor's instruments, and repairs to .. | 467.56      |
| Engines, machinery, etc .....         | 8,774.47  | Stone, binder .....                       | 375.42      |
| Electrical supplies .....             | 6,812.89  | Subscriptions, magazines, etc .....       | 17.50       |
| Forage .....                          | 12,364.35 | Tinware .....                             | 2,169.41    |
| Fuel .....                            | 14,196.28 | Tile .....                                | 8.40        |
| Furniture .....                       | 1,553.09  | Tickets, street-car .....                 | 324.00      |
| Fertilizer .....                      | 48.50     | Tools, and repairs to .....               | 3,720.60    |
| Furnaces .....                        | 100.00    | Typewriters .....                         | 271.50      |
| Freight .....                         | 40.24     | Wagons, carts, buggies, and repairs to .. | 788.00      |
| Groceries .....                       | 94.35     |   |             |
| Hardware .....                        | 7,946.12  |   |             |
| Hose .....                            | 1,535.03  |   |             |
| Horses .....                          | 1,200.00  | Special castings, pipe, etc. (water de-   | 119,117.04  |
| Hauling, bricks, curbing, etc .....   | 2,832.04  | partment) .....                           | 253,930.21  |
| Hire, horse .....                     | 120.00    | Hauling, castings, pipe, etc. (water de-  | 2,346.34    |
| Ice .....                             | 38.91     | partment) .....                           |             |
| Lead, pig .....                       | 7,802.59  |   |             |
| Lime, hair and mortar .....           | 117.92    | Total .....                               | 365,393.59  |

STATEMENT No. 3.—Showing list of employees other than those on the per annum rolls, amount paid each, and the various appropriations from which such payments were made.

|  | Rate.            | Improve-ments and repairs. | Deposit and as-sessment fund. | Assess-ment and permit work sewers. | Cleaning and re-pairing sewers and ba-sins. | Main and pipe sewers. | Suburban sewers. | Exten-sion boundary sewer. |
|--|------------------|----------------------------|-------------------------------|-------------------------------------|---|-----------------------|------------------|----------------------------|
| Superintendent of property .....       | \$6.00           | \$1,338.00                 | .....                         | \$156.00                            | \$78.00                                     | .....                 | .....            | .....                      |
| Assistant superin-tendent of property. | 5.00             | 1,115.00                   | .....                         | 130.00                              | 65.00                                       | .....                 | .....            | .....                      |
| 3 clerks .....                         | 4.00             | 2,569.00                   | .....                         | 247.00                              | 143.00                                      | .....                 | .....            | .....                      |
| 2 clerks .....                         | 3.00             | 1,322.00                   | .....                         | 69.00                               | 71.50                                       | .....                 | .....            | .....                      |
| 2 inspectors .....                     | 4.00             | 1,536.00                   | .....                         | 104.00                              | 104.00                                      | .....                 | .....            | .....                      |
| Do .....                               | 3.00             | 1,344.00                   | .....                         | 114.00                              | 70.50                                       | .....                 | .....            | .....                      |
| 1 inspector .....                      | 3.25             | 659.75                     | .....                         | 84.50                               | 42.25                                       | .....                 | .....            | .....                      |
| Do .....                               | 2.00             | 422.00                     | .....                         | 50.00                               | 26.00                                       | .....                 | .....            | .....                      |
| 2 blacksmiths .....                    | { 3.25<br>2.50 } | 280.91                     | \$69.00                       | 149.50                              | 73.88                                       | \$418.33              | \$289.64         | \$94.75                    |
| Wheelwright and painter .....          | 2.50             | 135.00                     | 30.00                         | 61.25                               | 57.90                                       | 257.15                | 135.26           | 65.00                      |
| Labor .....                            | .....            | 530.40                     | 251.00                        | 245.51                              | 105.74                                      | 802.06                | 791.00           | 135.76                     |
| Messenger-clerk .....                  | 2.00             | 370.00                     | .....                         | 50.00                               | 26.00                                       | .....                 | .....            | .....                      |
| Messenger .....                        | 1.75             | 376.25                     | .....                         | 21.00                               | 22.75                                       | .....                 | .....            | .....                      |
| Lumber inspector .....                 | 3.00             | .....                      | .....                         | .....                               | .....                                       | .....                 | 6.00             | .....                      |
| Total .....                            | .....            | 11,998.31                  | 350.00                        | 1,481.76                            | 886.52                                      | 1,477.54              | 1,221.90         | 296.51                     |

|  | Rate.            | East side inter-cepting sewer to Twelfth street. | George-town trunk sewer. | Low area trunk sewer. | Sewage disposal pumping station. | B street and New Jersey avenue trunk sewer. | Water department.                        |                                 |
|--|------------------|--|--------------------------|-----------------------|----------------------------------|---|--|---------------------------------|
|  |                  |  |                          |                       |                                  |   | Pumping expenses and pipe distribu-tion. | Exten-sion high service system. |
| Superintendent of property .....       | \$6.00           | .....  | .....                    | .....                 | .....                            | .....                                       | \$76.91                                  | \$151.09                        |
| Assistant superin-tendent of property. | 5.00             | .....  | .....                    | .....                 | .....                            | .....                                       | 64.09                                    | 125.91                          |
| 3 clerks .....                         | 4.00             | .....  | .....                    | .....                 | .....                            | .....                                       | 153.83                                   | 302.17                          |
| 2 clerks .....                         | 3.00             | .....  | .....                    | .....                 | .....                            | .....                                       | 41.20                                    | 138.80                          |
| 2 inspectors .....                     | 4.00             | .....  | .....                    | .....                 | .....                            | .....                                       | .....                                    | 96.00                           |
| Do .....                               | 3.00             | .....  | .....                    | .....                 | .....                            | .....                                       | .....                                    | 135.00                          |
| 1 inspector .....                      | 3.25             | \$38.35  | .....                    | .....                 | .....                            | .....                                       | .....                                    | 78.00                           |
| Do .....                               | 2.00             | .....  | .....                    | .....                 | .....                            | .....                                       | 25.64                                    | 50.36                           |
| 2 blacksmiths .....                    | { 3.25<br>2.50 } | 80.66  | \$37.29                  | \$110.06              | \$99.58                          | \$23.79                                     | .....                                    | 69.00                           |
| Wheelwright and painter .....          | 2.50             | 10.62  | 27.83                    | 29.05                 | 59.37                            | 36.59                                       | .....                                    | 38.75                           |
| Labor .....                            | .....            | 165.88   | 82.63                    | 156.40                | 136.56                           | 87.37                                       | .....                                    | 114.00                          |
| Messenger-clerk .....                  | 2.00             | .....  | .....                    | .....                 | .....                            | .....                                       | 7.83                                     | 44.67                           |
| Messenger .....                        | 1.75             | .....  | .....                    | .....                 | .....                            | .....                                       | .....                                    | 40.25                           |
| Lumber inspector .....                 | 3.00             | .....  | .....                    | .....                 | .....                            | .....                                       | .....                                    | .....                           |
| Total .....                            | .....            | 296.51   | 147.75                   | 295.51                | 295.51                           | 147.75                                      | 369.00                                   | 1,384.00                        |

**104    OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.**

**STATEMENT No. 3.**—*Showing list of employees other than those on the per annum rolls, amount paid each, etc.*—Continued.



STATEMENT No. 3.—Showing list of employees other than those on the per annum rolls, amount paid each, etc.—Continued.

|   | Rate.            | Parking<br>commis-<br>sion. | Contingent<br>expenses,<br>engineer<br>stables. | Maintain-<br>ing public<br>order, 1903. | Industrial<br>instruction,<br>public<br>schools. | Girls' cot-<br>tage, Indus-<br>trial Home<br>School. | Total.     |
|---|------------------|-----------------------------|---|---|--|--|------------|
| Superintendent of<br>property.....        | \$6.00           |                             |   |   |  |  | \$1,878.00 |
| Assistant superin-<br>tendent of property | 5.00             |                             |   |   |  |  | 1,565.00   |
| 3 clerks.....                             | 4.00             |                             |   |   |  |  | 3,561.00   |
| 2 clerks.....                             | 3.00             |                             |   |   |  |  | 1,753.50   |
| 2 inspectors .....                        | 4.00             |                             |   |   |  |  | 1,948.00   |
| Do.....                                   | 3.00             |                             |   |   |  |  | 1,848.00   |
| 1 inspector .....                         | 3.25             |                             |   |   |  |  | 1,010.10   |
| Do.....                                   | 2.00             |                             |   |   |  |  | 626.00     |
| 2 blacksmiths .....                       | { 3.25<br>2.50 } |                             | \$163.94  | \$36.25                                 |  |  | 1,996.58   |
| Wheelwright and<br>painter.....           | 2.50             |                             | 145.00  |   |  |  | 1,088.77   |
| Labor .....                               |                  | \$55.25                     | 41.13   | 33.75                                   |  |  | 3,945.19   |
| Messenger-clerk.....                      | 2.00             |                             |   |   |  |  | 544.00     |
| Messenger.....                            | 1.75             |                             |   |   |  |  | 530.25     |
| Lumber inspector....                      | 3.00             |                             |   |   | \$15.00  | \$3.00   | 69.00      |
| Total .....                               |                  | 55.25                       | 350.07  | 70.00                                   | 15.00  | 3.00   | 22,863.39  |

# REPORT OF THE PERMIT CLERK.

WASHINGTON, August 25, 1903.

SIR: I have the honor to submit the annual report of the operations of the permit clerk's office, giving in detail the character and number of permits issued during the fiscal year ended June 30, 1903.

Permits issued for which fees were paid, as shown by the receipt of the collector of taxes, District of Columbia, on applications therefor, were:

|  |       |
|--|-------|
| Water connection .....                               | 1,459 |
| Water repairs .....                                  | 899   |
| Sewer connections.....                               | 1,520 |
| Sewer repairs .....                                  | 1,035 |
| Gas and electric lighting connections.....           | 1,398 |
| Gas and electric lighting repairs.....               | 134   |
| Gas mains, lay .....                                 | 63    |
| Electric conduits, lay or repair:                    |       |
| Chesapeake and Potomac Telephone Company .....       | 329   |
| Potomac Electric Power Company.....                  | 61    |
| Western Union Telegraph Company.....                 | 1     |
| Postal Telegraph-Cable Company .....                 | 2     |
| Conduits:  |       |
| Connect with telephone.....                          | 12    |
| Connect with sewers .....                            | 127   |
| Carriage blocks, place at curb .....                 | 1     |
| Excavations (miscellaneous).....                     | 8     |
| Fences, erect to inclose parkings .....              | 356   |
| Guard stones, place in alleys.....                   | 3     |
| Hitching posts, place at inner edge of curb.....     | 6     |
| Lamps:   |       |
| Place on or over sidewalks.....                      | 51    |
| Repair in parking .....                              | 1     |
| Manholes, adjust to grade.....                       | 7     |
| Poles, erect or replace telegraph and telephone..... | 448   |
| Private conduit, lay (public, 247, 1900) .....       | 1     |
| Railway conduits:                                    |       |
| Connect with electric-power conduit.....             | 1     |
| Connect with sewers to drain .....                   | 7     |
| Total paid permits .....                             | 7,930 |

# 106 OPERATIONS OF THE ENGINEER DEPARTMENT, D. C.

Permits issued without fee were:

|  |     |
|--|-----|
| Water specials .....   | 315 |
| Sewer specials .....   | 609 |
| Electric-lighting specials.....  | 14  |
| Gas specials .....   | 23  |
| Conduit, connection with (Chesapeake and Potomac Telephone Company)... | 1   |
| Excavations .....  | 2   |
| Alleys:  |     |
| Close temporarily .....  | 9   |
| Grade .....  | 4   |
| Remove pavement temporarily.....                                       | 3   |
| Bridges:   |     |
| Attach guy rope to pier.....   | 1   |
| Haul over loads exceeding 5 tons in weight .....                       | 3   |
| renew cables on .....  | 1   |
| repair .....   | 2   |
| Copings, build or repair at back of sidewalk .....                     | 283 |
| Connect with overhead wires:   |     |
| Potomac Electric Power Company.....                                    | 26  |
| Chesapeake and Potomac Telephone Company .....                         | 76  |
| Cables:  |     |
| String aerial .....  | 84  |
| Remove aerial.....   | 1   |
| Curb, lower at driveway .....  | 1   |
| Drain pipes, lay.....  | 2   |
| Driveways, lay or repair .....   | 42  |
| Engines, move by own power over streets.....                           | 17  |
| Engine house, attach wall guy to .....                                 | 1   |
| Excavate in alleys.....  | 3   |
| Fences:  |     |
| Repair along roadway .....   | 1   |
| Repair inclosing parkings .....  | 501 |
| Put 8-foot board on District of Columbia property .....                | 1   |
| Frames, erect display.....   | 2   |
| Guard rail, erect on side of terrace steps .....                       | 1   |
| Gutters:   |     |
| Bridge.....  | 14  |
| Remove .....   | 1   |
| Clean.....   | 1   |
| Cut asphalt to waterproof vault .....                                  | 1   |
| Haul across sidewalk .....   | 85  |
| Leads:   |     |
| Lay across parkings.....   | 690 |
| Repair across parkings.....  | 318 |
| Manhole cover, repair.....   | 1   |
| Material:  |     |
| Fill in streets.....   | 9   |
| Store in streets.....  | 1   |
| Take from streets.....   | 32  |
| Parkings:  |     |
| Grade .....  | 189 |
| Occupy temporarily.....  | 19  |
| Pave or repave .....   | 58  |
| Store material for District of Columbia use .....                      | 1   |
| Parking pavement, remove.....  | 3   |
| Poles:   |     |
| Erect railroad telegraph .....   | 1   |
| Take down abandoned.....   | 1   |
| Roadways:  |     |
| Close temporarily.....   | 3   |
| Drive pins in.....   | 1   |
| Grade and repair.....  | 10  |
| Tunnel. ....   | 8   |
| Sidewalks:   |     |
| Lay .....  | 82  |
| Repair.....  | 59  |
| Occupy for business purposes .....                                     | 25  |

|  |     |
|--|-----|
| Sidewalks—Continued.                       |     |
| Space grade.....                           | 9   |
| Tunnel.....                                | 1   |
| Steps in parking, construct or repair..... | 448 |
| Stopcock boxes, adjust to grade.....       | 28  |
| Tar kettle, place in street.....           | 1   |
| Trees:                                     |     |
| Attach guys to.....                        | 10  |
| Remove.....                                | 47  |
| Trees and boxes, paint or whitewash.....   | 49  |
| Tree spaces:                               |     |
| Inclose with wire.....                     | 2   |
| Lay leads across.....                      | 20  |
| Pave.....                                  | 3   |
| Tiling, replace.....                       | 1   |
| Use dynamite in public space.....          | 1   |
| Water tables, lay or repair.....           | 87  |
| Walls, erect or repair on parking.....     | 31  |
| Wires:                                     |     |
| String guy.....                            | 5   |
| String overhead.....                       | 73  |
| Monthly, to repair existing overhead.....  | 19  |
| String for telephone purposes only.....    | 66  |

RAILROAD COMPANIES.

|   |    |
|---|----|
| Anacostia and Potomac River.....            | 6  |
| Capital Traction.....                       | 6  |
| City and Suburban.....                      | 1  |
| East Washington Heights Traction.....       | 2  |
| Georgetown and Tennallytown.....            | 1  |
| Washington Railway and Electric.....        | 14 |
| Baltimore and Ohio.....                     | 8  |
| Chesapeake Beach.....                       | 1  |
| Philadelphia, Baltimore and Washington..... | 30 |

UNITED STATES GOVERNMENT.

|  |   |
|--|---|
| Department of Agriculture.....                         | 2 |
| Government Hospital for Insane.....                    | 3 |
| Government Printing Office.....                        | 2 |
| Officer in charge of public buildings and grounds..... | 5 |
| United States Navy Department.....                     | 1 |
| United States Treasury Department.....                 | 2 |
| Washington Aqueduct, officer in charge of.....         | 2 |

Grand total ..... 12, 559

There has been an increase of 1,063 in the number of permits issued as compared with the fiscal year ended June 30, 1902, also in the amount of money paid to the collector of taxes, District of Columbia office, for fees as will be shown by his report.

|  |         |
|--|---------|
| Permits issued during the fiscal year: |         |
| 1901-2.....                            | 11, 496 |
| 1902-3.....                            | 12, 559 |

The following table shows the number of permits issued during the last five years, and the amount of money paid for permit fees to the collector of taxes, District of Columbia, during that time:

| Fiscal year.   | Permits issued. | Fees paid. |
|----------------|-----------------|------------|
| 1898-99.....   | 11, 330         | \$7, 692   |
| 1899-1900..... | 10, 589         | 6, 797     |
| 1900-1901..... | 10, 522         | 6, 588     |
| 1901-2.....    | 11, 496         | 7, 338     |
| 1902-3.....    | 12, 559         | 7, 980     |

One thousand six hundred and forty-one communications have been referred to this office, briefs made on cards, the permits necessary written, the papers indorsed

with action taken and returned to the record office of the engineer department, or through that office to the division having charge of the inspection of the work for which the permits were issued.

Very respectfully,

Maj. JOHN BIDDLE,  
Corps of Engineers, U. S. Army,  
Engineer Commissioner, District of Columbia.

H. M. WOODWARD,  
Permit Clerk, District of Columbia.

REPORT OF THE CHIEF CLERK.

WASHINGTON, July 1, 1903.

MAJOR: I have the honor to submit the following report for the fiscal year ended June 30, 1903:

|   |        |
|---|--------|
| Communications received, briefed, recorded, and acknowledged..... | 11,409 |
| Indorsements, references, and reports thereon .....               | 57,045 |
| Letters and orders prepared.....                                  | 3,425  |
| Copies of contracts drawn.....                                    | 584    |
| Vouchers and bills prepared, recorded, and forwarded.....         | 5,787  |

Schedules of bids received during the fiscal year for work and materials furnished, and statements of contracts for street improvements, sewers, buildings, construction material, supplies, and miscellaneous work are herewith.

The following is a list of employees in the record office who are paid from various appropriations:

| Title.            | Rate.           | Appropriations.                          | Period.           |
|-------------------|-----------------|--|-------------------|
|                   | <i>Per day.</i> |  |                   |
| One clerk .....   | \$4.50          | Surface, sewer, and water divisions..... | Four months each. |
| Three clerks..... | 4.00            | .....do .....                            | Do.               |
| One clerk.....    | 3.50            | .....do .....                            | Do.               |

Very respectfully,

Maj. JOHN BIDDLE,  
Corps of Engineers, U. S. Army,  
Engineer Commissioner, District of Columbia.

A. Y. LAKENAN,  
Chief Clerk, Engineer Department, District of Columbia.

Schedule of proposals for construction of portion of B street and New Jersey avenue trunk sewer; opened August 30, 1902.

SECTION A.

| Bidders.              | Ordinary excavation. | Red brick masonry, Portland cement. | Vitrified masonry, Portland cement. | Concrete masonry, "B." | Concrete masonry, "C." | 6-inch diameter pipe. | Section B, complete. |
|-----------------------|----------------------|-------------------------------------|-------------------------------------|------------------------|------------------------|-----------------------|----------------------|
| B. J. Sullivan .....  | \$1.14               | \$9.25                              | \$17.00                             | \$6.50                 | \$6.10                 | \$1.00                | \$50,000.00          |
| Andrew Gleeson.....   | 1.15                 | 10.00                               | 20.00                               | 6.90                   | 6.40                   | .15                   | 49,995.00            |
| G. H. Cole & Co ..... | 1.60                 | 12.00                               | 21.00                               | 8.50                   | 8.00                   | .25                   | 64,006.00            |

SECTION C.

| Bidders.              | Ordinary excavation. | Red brick masonry, Portland cement. | Vitrified masonry, Portland cement. | Concrete masonry, "B." | Concrete masonry, "C." | 6-inch diameter pipe. | Total cost.  |
|-----------------------|----------------------|-------------------------------------|-------------------------------------|------------------------|------------------------|-----------------------|--------------|
| B. J. Sullivan.....   | \$1.14               | \$9.25                              | \$17.00                             | \$6.50                 | \$6.10                 | 1.00                  | \$200,506.50 |
| Andrew Gleeson.....   | 1.20                 | 10.00                               | 22.00                               | 7.90                   | 6.90                   | .15                   | 207,741.65   |
| G. H. Cole & Co ..... | 1.60                 | 12.00                               | 21.00                               | 8.50                   | 8.00                   | .25                   | 265,006.25   |

*Schedule of proposals received September 13, 1902, for the construction of sewers.*

SEWER A.

| Bidders.               | Ordinary<br>excava-<br>tion. | Rock<br>excava-<br>tion. | Embank-<br>ment<br>over<br>sewer. | Red<br>brick<br>ma-<br>sonry. | Vitrified<br>brick<br>masonry. | Concrete<br>masonry,<br>"B." | 6-inch<br>diameter<br>pipe. | Total cost. |
|------------------------|------------------------------|--------------------------|-----------------------------------|-------------------------------|--------------------------------|------------------------------|-----------------------------|-------------|
| Coyle & Co.....        | \$0.44                       | \$2.50                   | \$0.23                            | \$13.40                       | \$17.00                        | \$6.70                       | \$0.15                      | \$24,591.80 |
| Andrew Gleeson .....   | .65                          | 2.70                     | .30                               | 12.00                         | 22.00                          | 6.75                         | .25                         | 27,360.00   |
| Warren F. Brenizer Co. | .55                          | 3.50                     | .25                               | 13.20                         | 17.20                          | 7.85                         | .15                         | 28,079.60   |
| Lyons Bros.....        | .60                          | 5.00                     | .25                               | 13.05                         | 17.00                          | 7.65                         | .25                         | 28,656.60   |
| M. F. Talty.....       | .90                          | 4.00                     | .40                               | 13.00                         | 20.00                          | 6.50                         | .20                         | 28,936.00   |

SEWER B.

[Thirteenth street SW., between B street and Potomac River.]

| Bidders.               | Ordinary<br>excava-<br>tion. | Red brick<br>masonry. | Vitrified<br>brick<br>masonry. | Concrete<br>masonry,<br>"D." | Invert<br>block. | 24-inch<br>pipe. | 21-inch<br>pipe. | Total.     |
|------------------------|------------------------------|-----------------------|--------------------------------|------------------------------|------------------|------------------|------------------|------------|
| M. F. Talty .....      | \$1.00                       | \$13.00               | \$20.00                        | \$6.00                       | \$0.75           | \$0.80           | \$0.65           | \$9,191.65 |
| Warren F. Brenizer Co. | 1.00                         | 13.20                 | 17.20                          | 6.75                         | .75              | .98              | .85              | 9,490.53   |
| Coyle & Co.....        | 1.40                         | 14.50                 | 19.00                          | 7.50                         | .80              | 1.05             | .90              | 11,841.75  |
| Andrew Gleeson .....   | 1.50                         | 12.00                 | 21.00                          | 7.75                         | 1.00             | 1.10             | .90              | 12,495.68  |
| Lyons Bros .....       | 1.00                         | 15.00                 | 20.00                          | 9.00                         | 21.00            | 1.10             | 1.00             | 26,876.50  |

SEWER C.

[Through property Westminster College, Anacostia.]

| Bidders.                    | Ordinary<br>excava-<br>tion. | Concrete<br>masonry,<br>"D." | Special<br>red brick<br>masonry. | Total cost. |
|-----------------------------|------------------------------|------------------------------|----------------------------------|-------------|
| M. F. Talty.....            | \$0.55                       | \$6.00                       | \$15.00                          | \$1,621.50  |
| Andrew Gleeson .....        | .75                          | 7.90                         | 14.00                            | 1,974.10    |
| Lyons Bros.....             | 1.00                         | 7.00                         | 16.00                            | 2,008.00    |
| Warren F. Brenizer Co ..... | 1.25                         | 6.85                         | 13.95                            | 2,035.90    |
| Coyle & Co.....             | 1.50                         | 8.50                         | 17.00                            | 2,494.00    |

SEWER D.

[8 street NW., between Eighteenth and Nineteenth streets.]

| Bidders.                    | Ordinary<br>excava-<br>tion. | Concrete<br>masonry,<br>D. | Red<br>brick ma-<br>sonry. | Vitrified<br>brick ma-<br>sonry. | Invert<br>blocks. | Total<br>cost. |
|-----------------------------|------------------------------|----------------------------|----------------------------|----------------------------------|-------------------|----------------|
| Warren F. Brenizer Co ..... | \$0.70                       | \$6.75                     | \$13.20                    | \$17.20                          | \$0.75            | \$2,032.20     |
| Jno. F. Joyce.....          | .75                          | 6.75                       | 13.00                      | 17.75                            | .70               | 2,055.50       |
| Coyle & Co.....             | .65                          | 7.10                       | 14.50                      | 19.00                            | .90               | 2,130.65       |
| M. F. Talty.....            | 1.00                         | 6.00                       | 13.00                      | 20.00                            | .75               | 2,250.50       |
| Andrew Gleeson.....         | 1.00                         | 7.50                       | 11.00                      | 21.00                            | 1.00              | 2,476.00       |
| Lyons Bros .....            | 1.00                         | 7.75                       | 15.00                      | 20.00                            | .80               | 2,481.00       |

SEWER E.

[Fifth street NW., between Sumner and Morris roads and in Morris road.]

| Bidders.                    | Ordinary<br>excavation. | Red brick<br>masonry. | 24-inch<br>pipe. | 21-inch<br>pipe. | Total cost. |
|-----------------------------|-------------------------|-----------------------|------------------|------------------|-------------|
| Coyle & Co .....            | \$0.45                  | \$14.00               | \$0.95           | \$0.85           | \$2,733.75  |
| Lyons Bros .....            | .55                     | 13.25                 | .97              | .95              | 2,963.24    |
| Warren F. Brenizer Co ..... | .60                     | 13.20                 | .99              | .95              | 3,082.23    |
| M. F. Talty.....            | .80                     | 13.00                 | .80              | .65              | 3,091.00    |
| J. F. Joyce.....            | .90                     | 14.00                 | 1.50             | 1.40             | 4,501.90    |

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*Schedule of proposals received September 13, 1902, for the construction of sewers—Cont'd.*

## SEWER F.

[Hartford street NE. between Ninth and Thirteenth streets.]

| Bidders.                   | Ordinary excavation. | Red-brick masonry. | 24-inch pipe. | 21-inch pipe. | 15-inch pipe. | Total cost. |
|----------------------------|----------------------|--------------------|---------------|---------------|---------------|-------------|
| Warren F. Brenizer Co..... | \$0.60               | \$13.20            | \$0.99        | \$0.95        | \$0.85        | \$2,282.55  |
| Lyons Bros.....            | .60                  | 13.50              | .98           | .94           | .90           | 2,291.20    |
| Coyle & Co.....            | .70                  | 14.00              | 1.00          | .90           | .80           | 2,424.00    |
| John F. Joyce.....         | .65                  | 14.00              | 1.50          | 1.40          | 1.20          | 2,919.95    |

*Schedule of proposals for construction of portion of low-area trunk sewer; opened November 15, 1902.*

| Bidders.                   | Ordinary excavation. | Red-brick arch. | Red-brick invert and man-holes. | Vitri-fied-brick masonry. | Concrete masonry "B." | Concrete masonry "C." | 6-inch pipe under-drain. | Total cost. |
|----------------------------|----------------------|-----------------|---------------------------------|---------------------------|-----------------------|-----------------------|--------------------------|-------------|
| Warren F. Brenizer Co..... | \$1.50               | \$12.00         | \$14.25                         | \$20.00                   | \$8.50                | \$8.40                | \$0.30                   | \$73,665.50 |
| Patterson & Brierson ..... | 1.60                 | 13.50           | 15.00                           | 17.00                     | 9.00                  | 8.00                  | 1.00                     | 80,645.00   |
| E. G. Gummel .....         | 2.00                 | 16.00           | 16.00                           | 25.00                     | 9.00                  | 8.50                  | .30                      | 92,650.00   |
| Andrew Gleeson .....       | 2.45                 | 14.00           | 14.00                           | 24.00                     | 11.00                 | 10.00                 | .25                      | 104,820.00  |

*Schedule of proposals for constructing sewer in Jefferson street, Anacostia, east of Taylor street; opened February 16, 1903.*

## SEWER A.

| Bidders.          | Ordinary excavation. | Red-brick masonry. | 10-inch diameter pipe. | Total cost. |
|-------------------|----------------------|--------------------|------------------------|-------------|
| A. Gleeson .....  | \$0.80               | \$12.00            | \$0.70                 | \$1,484.00  |
| M. F. Talty ..... | .85                  | 15.00              | .75                    | 1,600.00    |
| Lyons Bros.....   | .95                  | 14.00              | .75                    | 1,692.00    |

## SEWER B.

[Cathedral avenue between Connecticut avenue and Woodley road.]

| Bidders.          | Ordinary excavation. | Red-brick masonry. | 24-inch diameter pipe. | Total.     |
|-------------------|----------------------|--------------------|------------------------|------------|
| M. F. Talty ..... | \$0.65               | \$14.00            | \$1.25                 | \$2,468.00 |
| A. Gleeson .....  | .80                  | 12.00              | 1.25                   | 2,713.00   |
| Lyons Bros.....   | 1.25                 | 14.00              | 1.95                   | 4,192.00   |

## SEWER C.

[Fifteenth street SW. between C and D streets; D street SW. between Fourteenth and Fifteenth streets, and Fourteenth street SW. between D and Maryland avenue.]

| Bidders.         | Ordinary excavation. | Red-brick masonry. | 24-inch diameter pipe. | 18-inch diameter pipe. | Total.     |
|------------------|----------------------|--------------------|------------------------|------------------------|------------|
| M. F. Talty..... | \$0.65               | \$14.00            | \$1.25                 | \$0.96                 | \$3,408.85 |
| A. Gleeson ..... | .70                  | 12.00              | 1.25                   | .95                    | 3,502.75   |
| Lyons Bros ..... | .95                  | 14.00              | 1.90                   | 1.75                   | 5,118.00   |

*Schedule of proposals for constructing sewers; opened June 20, 1903.*

[Michigan avenue between Lincoln avenue and a point west; Harewood avenue, and Bunker Hill road.]

| Bidders.           | Ordinary excavation. | Red-brick masonry. | Vitrified-brick masonry. | Concrete masonry, "D." | Vitrified invert blocks. | 24-inch pipe. | 21-inch pipe. | A.          |
|--------------------|----------------------|--------------------|--------------------------|------------------------|--------------------------|---------------|---------------|-------------|
| E. G. Gummel ..... | \$0.60               | \$15.25            | \$21.00                  | \$6.50                 | \$0.90                   | \$1.26        | \$1.19        | \$14,084.90 |
| Lyons Bros.....    | 1.25                 | 13.75              | 21.00                    | 8.00                   | .90                      | 1.00          | .90           | 19,496.50   |

[Fifth street NW. between G and K streets.]

| Bidders.           | Ordinary excavation. | Red-brick masonry. | Vitrified-brick masonry. | Concrete masonry, "D." | 24-inch pipe. | B.         |
|--------------------|----------------------|--------------------|--------------------------|------------------------|---------------|------------|
| E. G. Gummel ..... | \$0.60               | \$14.75            | \$20.00                  | \$5.75                 | \$1.15        | \$6,229.65 |
| Lyons Bros.....    | 1.00                 | 12.00              | 20.00                    | 8.00                   | 1.00          | 8,142.00   |

[Sewer in Rock Creek Church road, and in Warder avenue.]

| Bidders.           | Ordinary excavation. | Red brick masonry. | Vitrified brick masonry. | Concrete masonry "D." | Vitrified block inverts. | 18-inch pipe. | C.         |
|--------------------|----------------------|--------------------|--------------------------|-----------------------|--------------------------|---------------|------------|
| E. G. Gummel ..... | \$0.60               | \$15.25            | \$21.00                  | \$6.50                | \$0.90                   | \$1.12        | \$4,358.82 |
| Lyons Bros .....   | 1.25                 | 14.00              | 22.00                    | 8.50                  | 1.00                     | .90           | 5,969.90   |

[Sewer in Sixteenth street NW., between Grant and Sheridan streets.]

| Bidders.           | Ordinary excavation. | Red brick masonry. | 21-inch pipe. | 15-inch pipe. | D.         |
|--------------------|----------------------|--------------------|---------------|---------------|------------|
| E. G. Gummel ..... | \$0.60               | \$15.00            | \$1.15        | \$1.00        | \$1,714.45 |
| Lyons Bros .....   | 1.00                 | 12.00              | 1.00          | .85           | 2,079.40   |

[Sewer in Detroit street NE., between Ninth and Twelfth streets.]

| Bidders.           | Ordinary excavation. | Red brick masonry. | 24-inch pipe. | 21-inch pipe. | E.         |
|--------------------|----------------------|--------------------|---------------|---------------|------------|
| E. G. Gummel ..... | \$0.75               | \$16.00            | \$1.35        | \$1.27        | \$2,684.43 |
| Lyons Bros .....   | 1.50                 | 14.00              | 1.25          | 1.00          | 3,704.75   |

*Schedule of proposals for constructing sewer in North Capitol and E streets and Second and F streets NE.; opened June 22, 1903.*

| Bidders.             | Ordinary excavation. | Red brick masonry. | Vitrified brick masonry. | Concrete masonry. | 6-inch pipe. | Total.      |
|----------------------|----------------------|--------------------|--------------------------|-------------------|--------------|-------------|
| B. J. Sullivan.....  | \$1.25               | \$12.00            | \$19.50                  | \$7.40            | \$0.50       | \$40,637.50 |
| E. G. Gummel .....   | 1.90                 | 14.00              | 25.00                    | 8.55              | .60          | 52,472.50   |
| Guiney & Cavan ..... | 1.50                 | 15.00              | 25.00                    | 10.50             | .30          | 51,405.00   |
| Andrew Gleeson ..... | 1.49                 | 12.00              | 22.00                    | 7.90              | .50          | 44,845.00   |

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*Schedule of proposals received January 3, 1903, for construction of sewerage pumping station.*

|                        | A. B.<br>Stannard. | Brennan<br>Construc-<br>tion Co. | Geo. A.<br>Fuller Co. | Penn<br>Bridge Co. | Herman<br>Probst. | Richardson<br>& Burgess. | Andrew<br>Gleason. |
|------------------------|--------------------|----------------------------------|-----------------------|--------------------|-------------------|--------------------------|--------------------|
| Earth excavation ..    | \$1.10             | \$0.73                           | \$1.09                | \$1.09             | \$0.95            | \$1.11                   | \$1.00             |
| Piling ..              | .18                | .16                              | .1775                 | .1775              | .23               | .18                      | .195               |
| Broken stone base..    | 2.50               | 2.00                             | 2.20                  | 2.20               | 2.15              | 2.25                     | 1.95               |
| Underdrains .....      | .10                | .15                              | .25                   | .25                | .40               | .255                     | .25                |
| Concrete A .....       | 8.50               | 8.70                             | 8.28                  | 8.28               | 9.90              | 8.50                     | 7.40               |
| Concrete B .....       | 7.90               | 7.08                             | 7.65                  | 7.60               | 8.70              | 7.75                     | 6.90               |
| Concrete C .....       | 6.00               | 6.00                             | 5.95                  | 5.90               | 6.55              | 6.00                     | 6.50               |
| Red-brick masonry.     | 9.00               | 12.58                            | 14.00                 | 14.00              | 12.50             | 14.25                    | 12.00              |
| Vitrified masonry..    | 12.00              | 20.00                            | 19.00                 | 19.00              | 18.00             | 19.40                    | 20.00              |
| Steel work .....       | .04                | .03                              | .034                  | .0321              | .04               | .0333                    | .000               |
| Cast-iron bedplates.   | .04                | .025                             | .025                  | .022               | .0357             | .0225                    | .000               |
| Screens.....           | 15.00              | 5.83                             | 5.50                  | 5.30               | 15.87             | 5.50                     | 11.25              |
| Floor grating.....     | 30.00              | 23.76                            | 22.00                 | 21.60              | 31.90             | 22.50                    | 30.00              |
| Cast-iron floor plates | 40.00              | 22.28                            | 21.00                 | 20.25              | 50.60             | 21.06                    | 35.00              |
| Substructure .....     | 269,220.00         | 240,763.30                       | 265,035.00            | 263,086.50         | 294,308.45        | 268,717.05               | 266,403.50         |
| Superstructure .....   | 279,000.00         | 308,000.00                       | 323,984.00            | 334,737.00         | 358,600.00        | 330,350.00               | .....              |

*Schedule of proposals for furnishing elevators, Trumbull street pumpiny station; opened April 4, 1903.*

| Bidders.                              | Price.  |
|---------------------------------------|---------|
| Warner Elevator Manufacturing Co..... | \$3,750 |
| Marine Engine Machine Co .....        | 5,005   |
| Otis Elevator Co.....                 | 4,950   |

a Informal.

*Schedule of proposals received September 6, 1902, for furnishing coal and ash conveying equipment for Trumbull street pumping station.*

| Bidders.                      | Amount.  |
|-------------------------------|----------|
| John A. Mead & Co .....       | \$17,000 |
| Link Belt Engineering Co..... | 13,850   |
| W. J. Haskins .....           | 22,344   |
| C. W. Hunt Co.....            | 31,900   |

*Schedule of proposals for equipment for sewerage pumping plant at Industrial Home School; received October 18, 1902.*

| Bidders.                    | Cost.      |
|-----------------------------|------------|
| Warren F. Brenizer Co ..... | \$1,780.00 |

*Schedule of proposals for furnishing and erecting steel trestle over tracks of Baltimore and Ohio Railroad at Twenty-eighth and Avalon streets; received April 4, 1903.*

| Bidders.                               | Cost.      |
|--|------------|
| Lauer & Harper Co .....                | \$1,253.00 |
| Penn Bridge Co .....                   | 1,347.00   |
| Jas. H. McGill.....                    | 1,574.00   |
| New Jersey Foundry and Machine Co..... | 2,487.00   |



*Schedule of proposals received February 15, 1903, for furnishing lumber for repair of Aqueduct Bridge over Potomac River.*

| Bidders.                   | Joists. | Flooring. |
|----------------------------|---------|-----------|
| Thomas W. Smith.....       | \$32.50 | \$29.00   |
| Church & Stephenson .....  | 53.50   | 33.50     |
| W. T. Galliher & Bro ..... | 56.00   | 38.00     |

*Schedule of proposals for grading and regulating suburban streets and avenues; opened June 20, 1903.*

| Bidders.                | Grading.         | Curb.             | Curb.             | Gutters.         | Macadam.         | Excess hauling.  | Total.     |
|-------------------------|------------------|-------------------|-------------------|------------------|------------------|------------------|------------|
|                         | <i>Cu. yard.</i> | <i>Lin. foot.</i> | <i>Lin. foot.</i> | <i>Sq. yard.</i> | <i>Cu. yard.</i> | <i>Per mile.</i> |            |
| G. B. Mullin .....      | \$0.39           | \$0.22            | \$0.37            | \$0.34           | \$0.38           | \$0.24           | \$9,030.00 |
| Cranford Paving Co..... | .44              | .22               | .27               | .34              | .50              | .30              | 10,084.00  |

*Schedule of proposals received July 19, 1902, for improving Connecticut avenue west of Rock Creek.*

| Bidders.              | Grading. | Macadam. | Total.     |
|-----------------------|----------|----------|------------|
| G. B. Mullin .....    | \$1.20   | \$0.80   | \$2,780.00 |
| Martin McNamara ..... | .98      | .80      | 2,340.00   |
| M. F. Talty.....      | .97      | .70      | 2,272.00   |

*Schedule of proposals for laying asphalt block pavements; opened July 26, 1902.*

| Bidders.                                  | Gravel base.        | Natural cement, concrete base. |
|---|---------------------|--------------------------------|
|   | <i>Square yard.</i> | <i>Square yard.</i>            |
| Washington Asphalt Block and Tile Co..... | \$1.66              | \$2.00                         |
| Brennan Construction Co.....              | 1.76                | 2.19                           |

*Schedule of proposals for repairing asphalt pavements; opened June 13, 1903.*

| Items.  | Bidders.                      | One-year contract. | Two-year contract. | Four-year contract. |
|---|-------------------------------|--------------------|--------------------|---------------------|
|   |                               | <i>Sq. yd.</i>     | <i>Sq. yd.</i>     | <i>Sq. yd.</i>      |
| Standard asphalt pavement, 6-inch base.               | Brennan Construction Co.....  | \$1.65             | \$1.63             | \$1.59              |
|   | Barber Asphalt Paving Co..... | 1.615              | 1.615              | 1.61                |
|   | Cranford Paving Co.....       | 1.71               | 1.70               | 1.69                |
| Standard asphalt surface, 2½-inch.                    | Brennan Construction Co.....  | 1.69               | 1.68               | 1.63                |
|   | Barber Asphalt Paving Co..... | 1.735              | 1.735              | 1.73                |
|   | Cranford Paving Co.....       | 1.87               | 1.85               | 1.85                |
| Standard asphalt surface, 2½-inch before compression. | Brennan Construction Co.....  | .74                | .69                | .67                 |
|   | Barber Asphalt Paving Co..... | .78                | .78                | .775                |
|   | Cranford Paving Co.....       | .76                | .73                | .71                 |
|   |                               | <i>Cu. ft.</i>     | <i>Cu. ft.</i>     | <i>Cu. ft.</i>      |
| Standard asphalt surface, measured in cart.           | Brennan Construction Co.....  | 0.53               | 0.51               | 0.49                |
|   | Barber Asphalt Paving Co..... | .485               | .485               | .48                 |
|   | Cranford Paving Co.....       | .55                | .54                | .53                 |
| Asphalt binder, measured in cart.                     | Brennan Construction Co.....  | .265               | .26                | .25                 |
|   | Barber Asphalt Paving Co..... | .28                | .28                | .28                 |
|   | Cranford Paving Co.....       | .28                | .28                | .28                 |
| Total .....   | Brennan Construction Co.....  | \$99,650           | \$96,150           | \$92,850            |
|   | Barber Asphalt Paving Co..... | 99,075             | 99,075             | 97,550              |
|   | Cranford Paving Co.....       | 103,650            | 102,000            | 99,650              |

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*Schedule of proposals for laying cement sidewalks in the District of Columbia; opened August 8, 1902.*

| Bidders.                      | Class A. | Class B. | Total.  |
|-------------------------------|----------|----------|---------|
| Brennan Construction Co ..... | \$1.04   | \$1.11   | \$63.80 |
| Stamsen & Blome .....         | 1.0775   | 1.0975   | 65.06   |
| Colburn Paving Co .....       | 1.05     | 1.18     | 65.60   |
| Cranford Paving Co .....      | 1.04     | 1.24     | 66.40   |
| F. M. Kemp & Sons .....       | 1.09     | 1.23     | 68.20   |

*Schedule of proposals for constructing an addition to girls' cottage building at Industrial Home School; opened August 23, 1902.*

| Bidders.                 | Amount. |
|--------------------------|---------|
| Burgess & Parsons.....   | \$6,400 |
| W. E. Mooney.....        | 6,700   |
| Pavarini & Greer.....    | 6,800   |
| John C. Louthan .....    | 6,900   |
| Gleeson & Humphrey ..... | 7,200   |
| Rezin W. Darby .....     | 7,500   |
| D. F. Mockabee .....     | 7,500   |

*Schedule of proposals for constructing 8-room school building on Pierce street, between First street and New Jersey avenue NW.; received September 20, 1902.*

| Bidders.                                     | Amount No. 1. | Amount No. 2. |
|--|---------------|---------------|
| Gleeson & Humphrey.....                      | \$40,900      | .....         |
| D. F. Mockabee .....                         | 41,173        | .....         |
| Pavarini & Greer .....                       | 41,600        | .....         |
| John C. Louthan .....                        | 41,975        | .....         |
| J. M. Dunn .....                             | 43,409        | .....         |
| M. B. Casey (steam).....                     | .....         | \$1,000       |
| W. W. Biggs (steam) .....                    | .....         | 5,500         |
| H. I. Gregory (hot air) .....                | .....         | 3,000         |
| H. I. Gregory (heat regulating device) ..... | .....         | 32,000        |

*Schedule of bids received September 20, 1902, for constructing 8-room school building at southeast corner Ninth and D streets NE.*

| Bidders.                                     | Amount No. 1. | Amount No. 2. |
|--|---------------|---------------|
| Pavarini & Greer.....                        | \$37,900      | .....         |
| D. F. Mockabee .....                         | 39,969        | .....         |
| J. M. Dunn.....                              | 38,528        | .....         |
| Gleeson & Humphrey.....                      | 39,000        | .....         |
| W. H. McCray.....                            | 40,600        | .....         |
| Burgess & Parsons .....                      | 45,930        | .....         |
| M. B. Casey (steam) .....                    | .....         | \$5,000       |
| W. W. Biggs (steam) .....                    | .....         | 7,000         |
| H. I. Gregory (hot air) .....                | .....         | 3,000         |
| H. I. Gregory (heat regulating device) ..... | .....         | 11,000        |

*Schedule of proposals for constructing 4-room addition to Cranch school building at Twelfth and G streets SE.; opened January 15, 1903.*

| Bidders.               | Amount.  |
|------------------------|----------|
| Burgess & Parsons..... | \$19,250 |
| Pavarini & Greer.....  | 19,800   |
| Osterman & Butler..... | 20,500   |
| W. E. Morney.....      | 21,250   |

*Schedule of proposals for constructing 8-room school building on Twenty-seventh street, between I and K streets NW.; opened January 31, 1903.*

| Bidders.                | Amount.  |
|-------------------------|----------|
| J. M. Dunn.....         | \$36,620 |
| Pavarini & Greer.....   | 37,000   |
| Osterman & Butler.....  | 37,582   |
| Burgess & Parsons.....  | 42,689   |
| Gleeson & Humphrey..... | 43,400   |

*Schedule of proposals for constructing 4-room school building at intersection of Hamilton and Naylor roads, Good Hope, D. C., opened February 7, 1903.*

| Bidders.               | Amount.  |
|------------------------|----------|
| Osterman & Butler..... | \$20,187 |
| W. E. Mooney.....      | 21,530   |
| Pavarini & Greer.....  | 22,333   |
| W. Rothwell.....       | 26,740   |

*Schedule of proposals for constructing 4-room school building, corner Howard and Emery streets, Reno, D. C.*

| Bidders.               | Amount.  |
|------------------------|----------|
| Pavarini & Greer.....  | \$17,865 |
| W. E. Mooney.....      | 17,894   |
| Burgess & Parsons..... | 18,093   |

*Proposals received July 14, 1902, for constructing engine house, lot 2, block 1, Nichol avenue, Randle Park, Congress Heights, D. C.*

| Bidders.                | Amount.  |
|-------------------------|----------|
| J. M. Dunn.....         | \$19,969 |
| D. F. Mockabee.....     | 20,044   |
| Gleeson & Humphrey..... | 20,200   |
| Pavarini & Greer.....   | 20,490   |
| W. H. McCray.....       | 20,555   |
| Arthur Cowsill.....     | 20,693   |

*Schedule of proposals for construction of a substation for police department at Tenleytown; received April 30, 1903.*

| Bidders.                             | Amount. |
|--------------------------------------|---------|
| Burgess & Parsons.....               | \$4,516 |
| Burgess & Parsons (alternative)..... | 4,466   |
| Pavarini & Greer.....                | 4,768   |

*Schedule of proposals for constructing morgue on water front, SW.; received April 15, 1903.*

| Bidders.                       | Amount.    |
|--------------------------------|------------|
| Lyons Bros.....                | \$4,193.50 |
| Lyons Bros. (alternative)..... | 3,993.50   |
| Pavarini & Greer.....          | 4,600.00   |

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*Schedule of bids for changes in plumbing, public schools District of Columbia, 1903; received July 26, 1902.*

| Bidders.                   | Amidon.    | Blair.     | Maury.     | Morse.     | Twining.   | Wormley.   |
|----------------------------|------------|------------|------------|------------|------------|------------|
| James Nolan & Sons.....    | \$4,875.00 | \$4,590.00 | \$4,698.00 | \$4,660.00 | \$5,225.00 | \$4,420.00 |
| Walter W. Daniels, jr..... | 3,725.00   | 3,650.00   | 3,600.00   | 3,660.00   | 3,980.00   | 4,050.00   |
| Wm. Rothwell .....         | 4,515.00   | 3,880.00   | 4,262.00   | 4,645.00   | 4,649.00   | 4,390.00   |
| M. B. Casey .....          | 4,535.00   | 4,435.00   | 4,433.00   | 4,510.00   | 4,673.00   | 4,633.00   |
| E. J. Hannan.....          | 3,347.00   | 3,299.00   | 3,289.00   | 3,300.00   | 3,300.00   | 2,934.00   |
| S. S. Shedd & Bro .....    | 4,665.75   | 4,382.50   | 4,466.75   | 4,616.50   | 4,933.00   | 4,145.00   |
| Whelan & Dunigan.....      | 4,227.00   | 4,161.00   | 4,244.00   | 4,260.00   | 4,493.00   | 3,941.00   |
| Hutchinson & McCarthy .... | 3,604.00   | 3,449.00   | 3,498.00   | 3,564.00   | 3,778.00   | 3,575.00   |

*Schedule of bids received June 11, 1903, for making changes in plumbing of toilet rooms of Brookland School building.*

| Bidders.                    | Amount. |
|-----------------------------|---------|
| Hutchinson & McCarthy ..... | \$2,497 |
| Wm. Rothwell & Son.....     | 2,464   |
| Dunigan Plumbing Co .....   | 2,450   |
| M. B. Casey Co .....        | 1,680   |

*Schedule of proposals received July 28, 1902, for installing boilers at Grant School.*

| Bidders.                                     | Amount.    |
|--|------------|
| National Electric Supply Co.....             | \$1,661.20 |
| W. W. Biggs Heating and Ventilating Co ..... | 2,165.00   |
| W. H. Larman .....                           | 2,275.00   |

*Schedule of proposals for installing two tubular boilers at Grant School; opened August 9, 1902.*

| Bidders.                                     | Amount. |
|--|---------|
| Forsberg & Murray .....                      | \$1,844 |
| W. H. Larman.....                            | 1,850   |
| W. W. Biggs Heating and Ventilating Co ..... | 1,961   |
| National Electric Supply Co.....             | 2,040   |
| W. H. McCuen & Co.....                       | 2,120   |

*Proposals received July 3, 1902, for steam piping at Manual Training School No. 2, P street NW., between First and Third streets.*

| Bidders.                                | Amount. |
|---|---------|
| W. H. Larman.....                       | \$946   |
| Warren W. Biggs .....                   | 1,144   |
| Warren W. Biggs (pipe covering) .....   | 140     |
|   | 1,284   |
| Forsberg & Murray .....                 | 1,231   |
| Forsberg & Murray (pipe covering) ..... | 160     |
|   | 1,391   |
| Cyrus B. Rees .....                     | 1,169   |
| Cyrus B. Rees (pipe covering) .....     | 135     |
|   | 1,304   |

*Schedule of proposals received August 12, 1902, for furnishing and installing gas engines and fans in schoolhouses.*

| Schools.      | H. I. Gregory. | Backus Water Motor Co. | Otto Gas Engine Works. |
|---------------|----------------|------------------------|------------------------|
| Morse .....   | \$695.00       | \$693.30               | \$868.00               |
| Twining.....  | 695.00         | 693.30                 | 898.00                 |
| Brent.....    | 695.00         | 693.30                 | 937.00                 |
| Maury.....    | 695.00         | 693.30                 | 903.00                 |
| Amidon.....   | 695.00         | 693.30                 | 903.00                 |
| Blair.....    | 695.00         | 693.30                 | 900.00                 |
| Wormley.....  | 695.00         | 693.30                 | 898.00                 |
| Banneker..... | 695.00         | 693.30                 | 887.00                 |
| Cook .....    | 695.00         | 727.70                 | 891.00                 |

*Schedule of proposals for furnishing glass blackboards at manual training schools, received August 13, 1902.*

**McKINLEY MANUAL TRAINING SCHOOL.**

| Bidders.           | Amount. | Square feet. |
|--------------------|---------|--------------|
| Warren & Dyer..... | \$1,493 | 1,678        |
| Hugh Reilly .....  | 1,676   | 1,676        |

**ARMSTRONG MANUAL TRAINING SCHOOL.**

| Bidders.           | Amount. | Square feet. |
|--------------------|---------|--------------|
| Warren & Dyer..... | \$2,549 | 2,865        |
| Hugh Reilly .....  | 568     | 568          |

*Schedule of proposals for grading to rear and west of Western High School; received March 21, 1903.*

| Bidders.                    | Price. | Cost.      |
|-----------------------------|--------|------------|
| Colburn Paving Co .....     | \$0.28 | \$1,960.00 |
| G. B. Mullin .....          | .33    | 2,310.00   |
| T. S. Carmody Company ..... | .37    | 2,590.00   |

*Schedule of proposals for furnishing Portland cement; opened March 13, 1903.*

|   | National Mortar Co. | Alpha Portland Cement Co. | J. G. Waters & Son. |
|---|---------------------|---------------------------|---------------------|
| Delivered at District of Columbia cement house.....                 | \$2.65              | \$2.53                    | \$2.40              |
| Delivered on tracks Baltimore and Ohio R. R.....                    | 2.61                | 2.48                      | 2.35                |
| Delivered on track Philadelphia, Wilmington and Baltimore R. R..... | 2.61                | 2.53                      | 2.37                |

*Schedule of proposals for Portland cement; opened June 10, 1903.*

| Bidders.                              | District of Columbia warehouse. |        | Baltimore and Ohio R. R. |        | Philadelphia, Wilmington and Baltimore R. R. |        |
|---------------------------------------|---------------------------------|--------|--------------------------|--------|--|--------|
|                                       | Wood.                           | Sacks. | Wood.                    | Sacks. | Wood.  | Sacks. |
| Atlas Portland Cement Co.....         | \$2.11                          | \$1.83 | \$2.07                   | \$1.78 | \$2.07                                       | \$1.78 |
| Martins Creek Portland Cement Co..... | 2.00½                           | 1.75½  | 1.94½                    | 1.69½  | 1.94½  | 1.69½  |
| Cranford Paving Co.....               | 2.40                            | 2.08   | 2.34                     | 2.04   | 2.38   | 2.05   |
| National Mortar Co.....               | 2.13                            | 1.82   | 2.13                     | 1.82   | 2.08   | 1.78   |
| Lchigh Portland Cement Co.....        | 2.04                            | 2.20   | 2.00                     | 2.15   | 2.00   | 2.15   |

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Schedule of bids for furnishing cast-iron water pipe; opened August 16, 1902.

| Bidders.  | Per ton. | Cost.       |
|---|----------|-------------|
| M. J. Drummond & Co .....                         | \$30.70  | \$13,508.00 |
| United States Cast Iron Pipe and Foundry Co ..... | 33.90    | 14,916.00   |
| Dimmick Pipe Co.....                              | 36.80    | 16,190.00   |
| Camden Iron Works .....                           | 38.44    | 16,912.00   |

Schedule of proposals for furnishing 30-inch cast-iron water pipe; received March 14, 1903.

| Bidders.   | Cost per ton. | Total.      |
|--|---------------|-------------|
| Dimmick Pipe Co.....                             | \$35.00       | \$22,752.00 |
| M. J. Drummond & Co .....                        | 34.80         | 22,620.00   |
| United States Cast Iron Pipe and Foundry Co..... | 36.70         | 24,156.00   |

Schedule of proposals for furnishing water pipe; opened June 20, 1903.

| Bidders.   | Prices. |          |
|--|---------|----------|
|  | 8-inch. | 12-inch. |
| M. J. Drummond & Co .....                        | \$32.40 | \$31.85  |
| United States Cast Iron Pipe and Foundry Co..... | 33.70   | 33.70    |
| Dimmick Pipe Co.....                             | 33.50   | 33.50    |
| Camden Iron Works .....                          | 35.90   | 35.90    |

Schedule of proposals received September 6, 1902, for furnishing cast-iron water pipes and specials.

| Bidders.                                       | Straight pipe. | Special  |
|--|----------------|----------|
|  | Per ton.       | Per ton. |
| New Jersey Cast Iron Pipe and Foundry Co ..... | \$32.70        | \$117.00 |
| Camden Iron Works .....                        | 35.90          | 72.00    |

Schedule of proposals received October 18, 1902, for furnishing cast-iron specials.

| Bidders.                            | Per ton. | Per pound. | Cost      |
|-------------------------------------|----------|------------|-----------|
| Dimmick Pipe Co .....               | \$90.00  | .....      | \$12.1500 |
| Camden Iron Works.....              | 98.00    | .....      | 13.2200   |
| Warren Foundry and Machine Co ..... | .....    | \$0.275    | 8.3160    |

Schedule of proposals received September 6, 1902, for furnishing gate valves and check valves.

| Bidders.   | Nos. 1 and 7, 30-inch electric. | No. 2, hand. | No. 3, 48-inch electric. | No. 4, 30-inch electric. | No. 5, 24-inch electric. |
|--|---------------------------------|--------------|--------------------------|--------------------------|--------------------------|
| Coffin Valve Co., Boston, Mass.....                | \$750.00                        | \$550.00     | \$925.00                 | \$760.00                 | \$470.00                 |
| Chapman Valve Co., Indian Orchard, Mass.           | 898.00                          | 621.00       | 1,081.00                 | 920.00                   | 645.00                   |
| Michigan Brass and Iron Works, Detroit, Mich ..... | 872.31                          | 603.48       | 2,244.85                 | 872.31                   | 451.72                   |
| A. P. Smith Manufacturing Co., Newark, N. J .....  | 1,350.00                        | 1,000.00     | 1,700.00                 | 1,350.00                 | 750.00                   |

*Schedule of proposals received September 6, 1902, for furnishing gate valves and check valves—Continued.*

| Bidders.  | Nos. 6, 9, 10,<br>11, 12, 24-<br>inch hand. | No. 8, 30-<br>inch hand. | No. 13, 20-<br>inch hand. | 30-inch<br>check. | Total.     |
|---|---|--------------------------|---------------------------|-------------------|------------|
| Coffin Valve Co., Boston, Mass .....                  | \$270.00                                    | \$525.00                 | \$180.00                  | \$390.00          | \$6,650.00 |
| Chapman Valve Co., Indian Orchard, Mass.              | 318.00                                      | 606.00                   | 289.00                    | 441.00            | 7,989.00   |
| Michigan Brass and Iron Works, Detroit,<br>Mich ..... | 224.72                                      | 603.48                   | 186.25                    | 637.71            | 8,498.02   |
| A. P. Smith Manufacturing Co., Newark,<br>N. J.....   | 470.00                                      | 1,000.00                 | 250.00                    | 1,250.00          | 12,850.00  |

*Schedule of proposals received October 18, 1902, for furnishing cast-iron lamp-posts.*

| Bidders.                  | Price per<br>post. |
|---------------------------|--------------------|
| Chas. White & Co.....     | \$7.35             |
| The Weaver-Hirsh Co ..... | 7.38               |
| Stuart R. Carr & Co ..... | 7.90               |
| Belmont Iron Works .....  | 7.98               |
| M. J. Drummond & Co ..... | 10.00              |

*Schedule of proposals received December 6, 1902, for curb and corporation cocks.*

| Bidder.                            | Curb<br>cocks. | Corporation cocks. |         |         |
|------------------------------------|----------------|--------------------|---------|---------|
|                                    |                | 1-inch.            | 1-inch. | 1-inch. |
| H. Mueller Manufacturing Co .....  | \$0.95         | \$0.49             | \$0.65  | \$1.85  |
| A. P. Smith Manufacturing Co ..... | 1.10           | .57                | .85     | 1.00    |

*Schedule of proposals for furnishing repressed vitrified sewer invert bricks.*

| Bidder.                     | Vitrified<br>invert<br>sewer<br>brick No. 1. | Vitrified<br>invert<br>sewer<br>brick No. 2. |
|-----------------------------|--|--|
|                             | Per M.                                       | Per M.                                       |
| Mack Manufacturing Co ..... | \$40   | \$40   |

*Schedule of proposals received July 26, 1902, for underground signal telephone cables.*

|                               | Standard<br>Under-<br>ground Ca-<br>ble Co. | Chesa-<br>peake and<br>Potomac<br>Telephone<br>Co. | Jno. A.<br>Roebling's<br>Sons Co. |
|-------------------------------|---|--|-----------------------------------|
| 20-pair telephone cable.....  | \$0.205                                     | \$0.184  | \$0.195                           |
| 25-pair telephone cable.....  | .245  | .218   | .23                               |
| 15-pair signal cable.....     | .26   | .264   | .2375                             |
| 12-pair signal cable.....     | .23   | .241   | .205                              |
| 6-pair combination cable..... | .185  | .276   | .175                              |
| 5-pair combination cable..... | .165  | .23  | .155                              |
| 3-pair combination cable..... | .13   | .184   | .115                              |

*Schedule of proposals received September 6, 1902, for naphtha street lighting.*

| Bidders.                             | Per lamp<br>per annum. |
|--------------------------------------|------------------------|
| American Development Co.....         | \$19.65                |
| American Lighting Co .....           | 19.70                  |
| Union Lighting Co .....              | 19.80                  |
| Pennsylvania Globe Gas Light Co..... | 20.00                  |

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*Schedule of proposals received to furnish and erect metallic file cases and book racks for office of registrar of wills; opened July 10, 1902.*

| Bidders.                        | Amount. |
|---------------------------------|---------|
| Art Metal Construction Co ..... | \$1,965 |
| Woodruff Manufacturing Co ..... | 1,995   |

## *Statement of contracts for construction of sewers for fiscal year 1903.*

| No.  | Date.             | Name and address of contractor.   | Location.   | Character of work.  |
|------|-------------------|-----------------------------------|---|---|
| 3165 | 1902.<br>Sept. 12 | B. J. Sullivan, Philadelphia, Pa. | New Jersey avenue SE. between N and I.  | Construct 980 feet of 16 by 18 foot; 9 by 10 foot 6 inch; 600 feet of 15 by 17 foot sewer.  |
| 3168 | Oct. 1            | Cayle & Co.....                   | New Jersey avenue SE. between I street and Garfield Park.<br>Georgetown College grounds .....   | Construct 315 feet of 15 by 17 foot sewer.<br>Construct 2,605 feet of 6-foot sewer.   |
| 3170 | Oct. 1            | M. F. Talty.....                  | Fifth street NW. between Sumner street and Morris road, and in Morris road between Fifth street and alley.<br>Thirteenth street SW. between B street and Potomac River.   | Construct 1,857 feet of 24-inch pipe sewer.<br>336 feet of 21-inch pipe sewer.  |
| 3171 | Sept. 30          | W. F. Brenizer Co ....            | Westminster College grounds, Anacostia.<br>S street NW. between Eighteenth and Nineteenth streets; Hartford street NE. between Ninth and Thirteenth streets.  | Construct 120 feet of 3 by 4 1/2 foot sewer; 630 feet of 2.75 by 4.15 foot sewer; 410 feet of 24-inch pipe sewer; 515 feet of 21-inch pipe sewer.                                     |
| 3182 | Dec. 5            | W. F. Brenizer Co ....            | Galena street NE. between Sixth and Seventh streets.<br>From First street and New Jersey avenue SE. to Pennsylvania avenue and John Marshall place NW.  | Construct 380 feet of 3 foot 6 inch sewer.<br>Construct 450 feet of 2 by 3 foot sewer; 380 feet of 24-inch pipe sewer; 625 feet of 21-inch pipe sewer; 30 feet of 15-inch pipe sewer. |
| 3189 | 1903.<br>Feb. 19  | M. F. Talty.....                  | Cathedral avenue, between Connecticut avenue and Woodley road.<br>Fifteenth street SW., between C and D; D street SW., between Fourteenth and Fifteenth; Fourteenth street SW., between D street and Maryland avenue. | Construct 650 feet of 15-inch pipe sewer.<br>Construct 5,000 feet of 3 foot 6 inch circular sewer.  |
| 3191 | Mar. 3            | Andrew Gleeson .....              | Jefferson street east, from Taylor street Anacostia.  | Construct 960 feet 24-inch pipe sewer.  |
| 3221 | June 29           | E. G. Gummel.....                 | Michigan avenue, between Lincoln avenue and point west of; Harewood road, between Michigan avenue and point north of; Bunker Hill road, between Lincoln avenue and point east of.                                     | Construct 965 feet 24-inch pipe sewer and 410 feet of 15-inch pipe sewer.   |

## *Statement of contracts for improvement of streets, avenues, and roads for the fiscal year 1903.*

| No.  | Date.            | Name and address of contractor.       | Location.  | Character of work.           |
|------|------------------|---------------------------------------|--|------------------------------|
| 3073 | 1902.<br>July 24 | M. F. Talty, Washington, D. C.        | Connecticut avenue, west of Rock Creek, from Randolph street, Fernwood Heights, to Pierce Mill road. | Grading.                     |
| 3145 | Aug. 15          | T. M. Bond .....                      | Nebraska avenue, between Newark street and Tenleytown road.  | Do.                          |
| 3158 | Aug. 8           | Washington Asphalt Block and Tile Co. | Where ordered.....   | Asphalt-block pavements.     |
| 3161 | Aug. 12          | M. F. Talty .....                     | do.....  | Grade, set curb and gutters. |
| 3162 | .....do .....    | do .....                              | New Hampshire avenue, between Whitney and Brightwood avenues.  | Grading.                     |



OPERATIONS OF THE ENGINEER DEPARTMENT, D. C. 121

*Statement of contracts for improvement of streets, etc.—Continued.*

| No.  | Date.            | Name and address of contractor | Location.   | Character of work.            |
|------|------------------|--------------------------------|---|-------------------------------|
| 3163 | 1902.<br>Aug. 16 | G. B. Mullin .....             | Kenesaw avenue, Nineteenth street to Zoological Park, Quincy street, Twenty-ninth street to Pierre Mill road. | Grading                       |
| 3166 | Oct. 22          | Barber Asphalt Paving Co.      | Where ordered.....  | Sheet-asphalt paving.         |
| 3196 | 1903.<br>Apr. 3  | Colbern Paving Co ...          | Western High School .....   | Grade lot and sidewalk space. |

*Statement of contracts for general supplies, fiscal year 1903.*



Statement of construction, hauling, and miscellaneous contracts for fiscal year 1903—Cont'd.

| No.  | Date.            | Name and address of contractor.                         | Description.   |
|------|------------------|---|--|
| 3164 | 1902.<br>Aug. 22 | Forsberg & Murray, Washington, D. C.....                | Furnish and erect tubular boilers to Grant School.   |
| 3169 | ....do ...       | Brennan Construction Co., Washington, D. C..            | Lay cement sidewalks where ordered.  |
| 3172 | Nov. 1           | .....do .....   | Construct 8-room school building Ninth and D streets NE.   |
| 3173 | Oct. 9           | H. I. Gregory, Washington, D. C.....                    | Mechanical heating and ventilating apparatus in school building, P street NW., between First street and New Jersey avenue. |
| 3174 | Oct. 29          | .....do .....   | Mechanical heating and ventilating apparatus in school building, Ninth and D streets NE.                                   |
| 3176 | Nov. 10          | W. F. Brenizer Co., Washington, D. C.....               | Sewage-pumping equipment at Industrial Home School.  |
| 3180 | Nov. 12          | Chas. White & Co., Washington, D. C.....                | Furnish and deliver lamp posts.  |
| 3183 | 1903.<br>Jan. 3  | Gleeson & Humphrey, Washington, D. C.....               | Construct 8-room school building on southeast corner Twelfth and N streets NE.   |
| 3184 | Jan. 10          | H. I. Gregory, Washington, D. C.....                    | Mechanical heating and ventilating apparatus in school building at southeast corner Twelfth and N streets NE.              |
| 3185 | 1902.<br>Dec. 27 | H. Mueller Manufacturing Co., Decatur, Ill ..           | Furnish curb and corporation cocks.  |
| 3186 | 1903.<br>Jan. 26 | A. B. Stannard, New York, N. Y.....                     | Construct substructure foundation and superstructure for sewage-pumping station foot New Jersey avenue SE.                 |
| 3187 | Feb. 3           | Burgess & Parsons, Washington, D. C.....                | Construct 4-room addition to Cranch School building at southwest corner Twelfth and G streets SE.                          |
| 3188 | Feb. 18          | Jas. M. Dunn, Washington, D. C.....                     | Construct 8-room school building west side Twenty-seventh street NW., between I and K.                                     |
| 3190 | ....do ...       | Osterman & Butler, Washington, D. C.....                | Construct 4-room school building at intersection Hamilton and Naylor roads.  |
| 3193 | Mar. 18          | Pavarini & Greer, Washington, D. C.....                 | Construct complete a 4-room addition to Brookland School at Wallace and Lansing streets.                                   |
| 3197 | Apr. 11          | .....do .....   | Construct complete a 4-room school building, intersection Howard and Emory streets, Fort Reno.                             |
| 3198 | Apr. 14          | Otis Elevator Co., New York City.....                   | Furnish and erect complete two freight elevators in Trumbull street pumping station.                                       |
| 3199 | Apr. 16          | Chesapeake and Potomac Telephone Co., Washington, D. C. | Combination cables.  |
| 3200 | Apr. 13          | Lauer & Harper Co., Baltimore, Md.....                  | Furnish and erect steel trestle over Baltimore and Ohio tracks at Twenty-eighth street, Avalon.                            |
| 3201 | Apr. 25          | W. E. Mooney, Washington, D. C.....                     | Constructing two floating baths in tidal reservoir of Potomac River.   |
| 3202 | May 1            | Union Lighting Co., Washington, D. C.....               | Furnish, operate, repair, and maintain naphtha lights on streets, avenues, etc., for fiscal year ending June 30, 1904.     |
| 3203 | Apr. 29          | Chas. T. Halloway & Co., Baltimore, Md.....             | Furnish and deliver one Hays aerial hook and ladder truck and equipments.  |
| 3204 | ....do ...       | .....do .....   | Manufacture, furnish, and deliver chemical and hose combination wagons and equipment.                                      |
| 3205 | Apr. 30          | Lyons Bros., Washington, D. C.....                      | Construct wharf for new morgue on water front, between north line of M street and south line of N street.                  |
| 3206 | May 1            | Dunigan Plumbing Co., Washington, D. C.....             | Repair and change plumbing in police-court building.   |
| 3207 | May 2            | American Lighting Co., Baltimore, Md.....               | Furnish, operate, repair, and maintain incandescent gaslights.   |
| 3208 | May 21           | Burgess & Parsons, Washington, D. C.....                | Construct complete a substation building for police department on Tenleytown road, near River road.                        |
| 3209 | May 19           | R. V. Rusk, Washington, D. C.....                       | Clean unpaved streets.   |
| 3210 | ....do ....      | .....do .....   | Sprinkle, sweep, and clean public alleys.  |
| 3211 | May 23           | W. H. Ellis & Co., Washington, D. C.....                | Construct wharf for Naval Battalion of District of Columbia, foot of O street SW.  |

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Statement of construction, hauling, and miscellaneous contracts for fiscal year 1903—Cont'd.

| No.  | Date.           | Name and address of contractor.                                    | Description.   |
|------|-----------------|--|--|
| 3212 | 1903.<br>May 29 | R. V. Rusk, Washington, D. C.....                                  | Sprinkle, sweep, and clean paved car-<br>riageways in District of Columbia<br>with flushing and side-sweeping<br>machines. |
| 3215 | June 24         | Camden Iron Works, Philadelphia, Pa.....                           | Furnish and deliver cast-iron flanged<br>pipe and specials.  |
| 3216 | ...do....       | .....do.....   | Furnish and deliver cast-iron flanged<br>pipe and flexible joints.   |
| 3220 | June 26         | United States Cast Iron Pipe and Foundry<br>Co., Philadelphia, Pa. | Furnish and deliver cast-iron water<br>pipe.   |

## Schedule of bids for hauling; opened June 10, 1903.

| Bidders.                                    | Sand.          | Gravel.        | Paving<br>brick. | Paving<br>block. | 6 by 20<br>curb. | 8 by 8<br>curb. | Cast-<br>ings.  | Stone.         |
|---|----------------|----------------|------------------|------------------|------------------|-----------------|-----------------|----------------|
| City of Washington:                         | <i>Cu. yd.</i> | <i>Cu. yd.</i> | <i>Per M.</i>    | <i>Per M.</i>    | <i>Lin. ft.</i>  | <i>Lin. ft.</i> | <i>Per ton.</i> | <i>Cu. yd.</i> |
| Littlefield, Alvord & Co.....               | \$0.54         | \$0.54         | \$1.25           | \$2.20           | \$0.05           | \$0.04          | \$0.55          | \$0.39         |
| Merchants' Transfer and Storage<br>Co ..... |                |                | 1.37             | 1.89             | .05              | .035            | .55             | .....          |
| Frederick Springman.....                    |                |                |                  |                  |                  |                 | .50             | .....          |
| City of Georgetown:                         |                |                |                  |                  |                  |                 |                 |                |
| Littlefield, Alvord & Co.....               | .64            | .64            | 1.69             | 2.49             | .05              | .04             | .65             | .....          |
| Merchants' Transfer and Storage<br>Co ..... |                |                | 1.45             | 2.03             | .05              | .04             | .55             | .....          |
| Frederick Springman.....                    |                |                |                  |                  |                  |                 | .50             | .....          |
| East of Eastern Branch:                     |                |                |                  |                  |                  |                 |                 |                |
| Littlefield, Alvord & Co.....               | .54            | .54            | 1.25             | 2.20             | .05              | .04             | .55             | .....          |
| Merchants' Transfer and Storage<br>Co ..... |                |                | 1.37             | 1.89             | .05              | .035            | .73             | .....          |
| Frederick Springman.....                    |                |                |                  |                  |                  |                 | .55             | .....          |
| West of Rock Creek:                         |                |                |                  |                  |                  |                 |                 |                |
| Littlefield, Alvord & Co.....               | .64            | .64            | 1.49             | 2.49             | .05              | .04             | .65             | .....          |
| Merchants' Transfer and Storage<br>Co ..... |                |                | 1.45             | 2.03             | .05              | .04             | .73             | .....          |
| Frederick Springman.....                    |                |                |                  |                  |                  |                 | .65             | .....          |
| West of Georgetown:                         |                |                |                  |                  |                  |                 |                 |                |
| Littlefield, Alvord & Co.....               | .64            | .64            | 1.49             | 2.49             | .05              | .04             | .65             | .....          |
| Merchants' Transfer and Storage<br>Co ..... |                |                | 1.45             | 2.03             | .05              | .04             | .73             | .....          |
| Frederick Springman.....                    |                |                |                  |                  |                  |                 | .65             | .....          |
| Additional haul, mile or fraction of:       |                |                |                  |                  |                  |                 |                 |                |
| Littlefield, Alvord & Co.....               | .14            | .14            | .49              | .75              |                  |                 |                 | .15            |
| Merchants' Transfer and Storage<br>Co ..... |                |                | .21              | .26              | .03              | .03             | .17             | .....          |
| Frederick Springman.....                    |                |                |                  |                  |                  |                 | .10             | .....          |

## Schedule of proposals opened June 10, 1903, for furnishing material.

|   | Bidders.         |                    |                             |                                    |                               |                                |
|---|------------------|--------------------|-----------------------------|------------------------------------|-------------------------------|--------------------------------|
|   | Angus<br>Lamond. | Jas. M.<br>Porter. | W. Wirt<br>Clarke &<br>Son. | Baltimore<br>Terra Cotta<br>Works. | Potomac<br>Terra Cotta<br>Co. | Mack<br>Manufac-<br>turing Co. |
| 24-inch terra cotta sewer pipe.....                   |                  | \$0.97             | \$1.17                      | \$1.17                             | \$0.965                       | \$1.365                        |
| 21-inch terra cotta sewer pipe.....                   |                  | .75                | .90                         | .90                                | .7425                         | 1.05                           |
| 18-inch terra cotta sewer pipe.....                   |                  | .51                | .61½                        | .61½                               | .5049                         | .72                            |
| 15-inch terra cotta sewer pipe.....                   |                  | .41                | .48½                        | .48½                               | .401                          | .57                            |
| 12-inch terra cotta sewer pipe.....                   | \$0.30           | .30                | .36                         | .36                                | .297                          | .42                            |
| 10-inch terra cotta sewer pipe.....                   |                  | .23                | .27                         | .27                                | .2228                         | .315                           |
| 8-inch terra cotta sewer pipe.....                    | .12              | .17                | .18                         | .165                               | .165                          | .21                            |
| 6-inch terra cotta sewer pipe.....                    | .075             | .105               | .10½                        | .10                                | .099                          | .13                            |
| 24 by 6 inch terra cotta Y branches.....              |                  | 4.75               | 5.30½                       | 5.27                               | 4.50                          | 6.14                           |
| 21 by 6 inch terra cotta Y branches.....              |                  | 3.75               | 4.09                        | 4.05                               | 3.50                          | 4.72                           |
| 18 by 6 inch terra cotta Y branches.....              |                  | 2.60               | 2.79½                       | 2.75                               | 2.50                          | 3.21                           |
| 15 by 6 inch terra cotta Y branches.....              |                  | 2.30               | 2.23½                       | 2.20                               | 2.00                          | 2.56                           |
| 12 by 6 inch terra cotta Y branches.....              |                  | 1.55               | 1.66                        | 1.62                               | 1.52                          | 1.89                           |
| 10 by 6 inch terra cotta Y branches.....              |                  | 1.20               | 1.26½                       | 1.22                               | 1.155                         | 1.42                           |
| 8 by 6 inch terra cotta Y branches....                | .75              | .80                | .85                         | .70                                | .78                           | .95                            |
| 8 to 6 inch terra cotta reducers.....                 |                  |                    | .72                         | .62                                |                               |                                |
| 6-inch terra cotta bends.....                         | .25              | .40                | .39½                        | .34                                | .363                          | .46                            |
| 8-inch terra cotta bends.....                         | .40              | .70                | .72                         | .62                                | .65                           | .84                            |
| Vitrified sewer invert blocks.....                    | .50              | .60                |                             |                                    |                               | .75                            |
| Rect.rep.vitrified sewer invert bricks.....           |                  | 17.00              |                             |                                    |                               | 20.95                          |
| Spec. sec. vitrified sewer invert brick<br>No. 1..... |                  |                    |                             |                                    |                               | 45.00                          |
| Spec. sec. vitrified sewer invert brick<br>No. 2..... |                  |                    |                             |                                    |                               | 45.00                          |

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